Clinical Medicine

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Laënnec and The Stethoscope

RENÉ THÉOPHILE HYACINTHE LAËNNEC was born in Quimper, France, on February 17, 1781. When he was five years old his mother died of tuberculosis and he was brought up and educated by two uncles, one of whom was a member of the Faculty of Medicine at the University of Nantes.

René was a frail and delicate lad but was always a brilliant student, carrying off many prizes at school and at medical college.

In 1799, when he was only eighteen years old, he became an army surgeon; and at 33 he was appointed editor of the *Journal de Médecin* and chief physician to the Hôpital Necker, where he invented the stethoscope.

The story of how this invention, which revolutionized medical thought and laid the foundation for the modern science and art of physical diagnosis (with the assistance, of course, of Auenbrugger's discovery of percusson, fifty years earlier) came to be made is most interesting.

It is related that Dr. Laënnec was strolling, one day, in one of the parks of Paris, when he noticed a number of children who seemed to be enjoying themselves hugely in their play with a hollow log. Some of them would stand with their ears close to one end of the log, while one would tap gently or scratch with his fingernail upon the other end. The fun consisted in the fact that these small sounds were heard clearly at the further end of the hollow log.

This simple occurrence would have made no impression upon the ordinary man, but Laënnec was no ordinary man and when, a few days later, a very stout woman, whose symptoms suggested cardiac disease, came in to consult him, and he noticed that her large, heavy breasts and thick chest-wall would interfere with his hearing her heart sounds by placing his ear against her chest, as was then the custom, he thought of the children and the hollow log and, to quote his own words, "Immediately on the occurrence of this idea I rolled a quire of paper into a kind of cylinder and applied one end of it to the region of the heart and the other to my ear. I was not a little surprised and pleased to find that I could, thereby, perceive the action of the heart in a manner much more clear and distinct than I had ever been able to do by the immediate application of the ear."

This event occurred in 1816, and this roll of paper was the first stethoscope. Three years were devoted to study and experiment before he announced his discovery to the world, in 1819, and the stethoscope then employed was far different from the accurate and delicate instruments which we now employ, being merely a wooden tube, five or six inches long, expanded into a bell at one end with a disk of wood at the other,

to which the ear was applied. In the days of our fathers, when doctors commonly wore "stove-pipe" hats, the hat was the usual place for carrying the stethoscope.

With this new and wonderful instrument Laënnec embarked upon a series of intensive studies of the sounds produced by the human lungs and heart, in health and disease, which resulted in the first differentiation and adequate description of such conditions as bronchitis, pneumonia, pleurisy and tuberculosis and in recognizing that there were several different types of cardiopathies. The studies of Laënnec have probably been of more value to the medical profession than even his epoch-making invention.

In 1823 he succeeded Hallé as professor of medicine at the Collége de France, and, the following year, changed to the chair of clinical medicine.

His enormous labors were too much for his frail body, and his health broke down. He went to live a quiet life in the country for two years and returned, much improved, to Paris to resume his work.

Whether he acquired tuberculosis from his phthisical mother or from the scores of tuberculous patients he studied in the hospitals will never be known, but it gradually sapped his strength and he was finally forced to give up his work and retire to his native Brittany, where, on August 13, 1826, at the early age of forty-five years, he succumbed to the very malady upon which his studies had thrown so much light.

So passed one of the most brilliant and significant figures in medical history—the man to whom, in large measure, is due the enormous advance in the science of physical diagnosis which the last century has witnessed.

The first requisite for competent thinking is attentive and accurate observation.—*Annie Besant.*

THE A. M. A. MEETING

Once more the season approaches when physicians from all over the United States —and a few from foreign countries—will gather to exchange ideas and experiences, to find out what is new in medical science and art and to get better acquainted with each other.

April 19 to 23 is the time for this reunion, and Dallas, Texas, is the place. The railroads will do their part by making a rate of fare and a half for the round trip, if you are careful not to forget to ask for a certificate when you buy your ticket, and then have your certificate validated when you get to Dallas.

If you are not acquainted with our Texan brethren you have a treat in store for you. They are a fine, big-hearted, open-handed bunch and they will "do us well." Rumors of an immense, old-time barbecue, among other things, are afloat.

Many of the most important and interesting matters of the year will be presented at the scientific sessions. The professional exhibits will be as good as any postgraduate course you could take in three or four weeks. The commercial exhibits will put you in touch with all the new ideas in diagnosis and therapy and enable you to see and handle the new instruments.

You will meet many old friends and make many new ones. You will have a needed rest from the routine of your daily practice and all the cobwebs will be swept out of your brain, so that you will return, to your patients and your family, refreshed and invigorated—a better doctor and a better human being.

You all know the old proverb to the effect that "A rolling stone gathers no moss," and it is perfectly certain that those who do not do some "rolling" around the various medical societies, from time to time, will accumulate a fine growth of "moss"—on the back—and eke a few barnacles, perchance.

Better write for hotel reservations *now*, and look up the train schedules for Dallas.

A gem is not polished without rubbing nor a man perfected without trials.—*Chinese Proverb.*

CAFFEINE

It is an interesting fact that caffeine is present in the coffee of Arabia, the tea of China and Japan, the chocolate of Mexico, the *guarana* of Brazil, the *maté* of Paraguay, the *kola* of Africa and the "Appalachee tea" of the Carolinas. Why have people, in widely separated parts of the globe, always selected, for beverage purposes, a plant, from among all the many varieties at their disposal, which contained this drug if not because it supplied some distinct need in their lives?

The alkaloid, caffeine, occurs in white, fleecy masses of long, flexible silky crystals. It has a bitter taste and is not readily soluble in water (about 1 part in 80), but its solubility is greatly increased by the addition of citric acid, sodium benzoate and

other substances. It is usually employed in medicine in the form of the pure alkaloid or as citrated caffeine (not citrate *of* caffeine). For parenteral use, caffeine sodium benzoate is popular.

Physiological Action. Caffeine acts upon the *nervous system* as a very prompt and reliable *stimulant*, exerting its first and chief influence upon the brain and spinal cord, and working downward. By its action upon the brain it increases the rapidity of thought and by that upon the spinal cord it increases reflex activity and sensitiveness, making people "nervous." The sole effect upon the brain is to increase its functional activity.

Hollingsworth states that a man can do more mental work in a certain period of time with caffeine than he can do without it, without having any after period of exhaustion or depression; and H. C. Wood, Jr., has demonstrated the same effect with regard to muscular work.

It is stated by competent authorities that the amount of caffeine usually taken in tea and coffee produces no lesions in any of the tissues of the body.

Upon the *circulation* caffeine exerts a stimulating effect, probably due, indirectly, to the nervous stimulation. The pulse is quickened and, if the blood pressure is low, it is increased.

The Kidneys. Caffeine exerts a double effect upon the kidneys. It dilates the renal vessels and stimulates the secreting epithelium of the kidneys, thereby increasing the output of both liquids and solids. It is one of our most useful and reliable *diuretics.*

Tissue waste is depressed and the tissues are conserved.

The drug is completely oxidized and destroyed in the body, being *eliminated*, possibly, as uric acid.

It is a valuable stimulant to the *respiratory center.*

Therapeutic Uses. Being a quick-acting and positive heart stimulant and tonic, as well as a powerful renal stimulant, caffeine acts equally well in *dropsy*, whether of cardiac or renal origin.

It acts so well in cases of *cardiac disease*, especially myocardial damage, that quite a number of physicians are using it entirely in place of digitalis, while many more turn to it in any case where the latter drug is contraindicated or, for any reason, does not act satisfactorily. Its action is more prompt and sure than that of digitalis but, possibly, not more so than the action of digitalin.

Caffeine is of great value in the *depressed states* resulting from the *abuse of alcohol and tobacco.* Owing to its stimulating effect upon the respiratory center it is a direct, physiological *antidote* in cases of *opium poisoning.* It is also of value, in large doses, in the treatment of various *drug addictions.*

One of the most valuable and frequent uses of caffeine is for the purpose of tiding one over a period of especial stress, by stimulating the mental faculties and *relieving the sensations of fatigue.* Where much sleep has been lost it largely removes the feeling of heaviness and incapacity which results, replacing it with a condition of mild euphoria.

Headaches, due to nervous strain, hysteria and the like are usually benefited, especially if the drug is combined with acetphenetidin or the bromides. Its effect in true neuralgia is doubtful.

Poisoning is rare, as, in most cases, single doses of 10 grains, and daily dosage of 30 grains, produce no untoward effects. When it does occur it is characterized by burning in the throat, vertigo, nausea, numbness, tremors or convulsions, weak pulse, cold skin, collapse and death by asphyxia. The *antidotes* are emetics, heat, stimulants, atropine and morphine.

Caffeine is *contraindicated* in cases of acute renal irritation and *nephritis.*

Administration and Dosage. Caffeine may be administered in full doses, over long periods of time, without appearing to produce any lesions or untoward conditions in any part of the body. Even in doses of 5 to 7 grains it rarely produces as much insomnia as may be caused by a single cup of coffee.

For oral administration the *pure alkaloid* may be used in doses of from 1 to 5 grains, repeated at intervals so as to produce and maintain the desired result. These moderate doses are preferable, except in cases of alcoholism, nicotinism and drug addictions, where massive doses (up to 15 grains, two or three times a day) are required.

Citrated caffeine, because of its readier solubility, is preferred by some. As this drug contains only about 50 percent of caffeine, somewhat larger doses are usually employed.

The use of *caffeine arsenate* in small (1 mgm.—1/64 grain) and frequently repeated doses is highly recommended by some, on the ground that it is easier to obtain and maintain the exact result desired without

overdosage. This salt may be given up to 20 mgm. daily without ill effects.

For parenteral (hypodermic or intravenous) use, one of the soluble, double salts of sodium with benzoic, salicylic or cinnamic acids produces the best results. As these solutions are rather difficult to prepare, extemporaneously, it is advisable to purchase them in ampules and have them ready for instant use in emergencies.

Caffeine is a drug which is too little used by the average practitioner and its many valuable qualities warrant its close study and frequent, thoughtful administrations in a wide variety of conditions.

How long will man fail to realize that God's and Nature's laws are one and the same; intelligent, personal, immutable and inexorable; organic, natural laws?—*Dr. A. B. Jamison.*

PICTURES

We have, several times, heard the remark that doctors are about the toughest and dryest social propositions in existence, because they seem to be so wrapped up in their professional work that the only line of conversation they have is "shop talk," while many of them seem to pride themselves upon being devoid of "parlor accomplishments."

It is well—exceedingly well—that a man should be engrossed in and enthusiastic about his work, but we must remember that we were *human beings* for quite a number of years before we were doctors and that, even though there appears to be some evidence to the contrary, we are still human beings, in spite of the profession we have chosen.

The practitioner or clinician is dealing primarily with other human beings whose organs or functions are more or less deranged, and the more he can learn about *people* and the inner springs which move them, in health and disease—the closer he can get to the *reality* of them—the more capable he will become in solving their problems.

Among the various broadening and humanizing exercises the study of good pictures is one of the most valuable because here we come closer to the reality of things than most of us are able to approach by other means. We look at a landscape and we see what it means to *us*. We look at a *real* picture and we see nature, transmuted and translated by a *personality*. If we study the picture we can often learn more regarding the artist than we would be able to find out by means of an exhaustive physical or psychical examination.

One need not attempt to make himself into an art critic or a connoisseur in order to obtain benefit from a visit to an art gallery, but some slight study of artists and their work is vastly stimulating to one's power of appreciation.

If art galleries are not available to you it is now possible to obtain, at small cost, excellent reproductions of the world's masterpieces, both ancient and modern; and most of the metropolitan newspapers now run "art supplements" each week, a careful study of which will obviate the necessity for the purchase of expensive textbooks.

If you have any graphic talent yourself, it can be developed with great profit. In Chicago there is an organization known as the Business Men's Art Club, and the paintings produced by some of these active, busy and successful merchants, doctors, lawyers, clergymen and manufacturers would be a vast and pleasant surprise to a good many people.

Here, then, is a hobby which can be ridden at small expense and at odd hours when it will not interfere with necessary, bread-winning activities; will quicken the powers of observation and appreciation; enlarge the faculties of emotional understanding and human sympathy; enrich the conversational powers and add interest to social intercourse; and prove a refreshing and invigorating relief from the pressure of professional activities.

Let us make pictures, if we can, as an outlet for our own emotional pressure, and let us study them, in any case, so that we may gain more knowledge of the emotional reactions and human qualities of others.

Anyone can plant radishes; it takes courage to plant acorns and wait for the oaks.—*Jordan.*

THE AMERICAN CONGRESS ON INTERNAL MEDICINE AND THE COLLEGE OF PHYSICIANS

It is only a few years, comparatively speaking—many of us can remember the time—when the county and state medical societies and the A. M. A. gave us all there was in the way of information covering the whole field of medicine.

Whether we like it or not, the day of the specialist is here. Medical knowledge has increased to such an extent that no one head can hold it all. The specialists have seen the advantages of organizing societies

composed of men who were doing the same sort of work, and so we find the urological, otolaryngological, neurological, physiotherapeutic and various other specialists' societies.

A good many years ago, the surgeons saw what advantages might arise by combining into one great group all the men who were doing surgical work of any sort and who had had extensive experience and were possessed by high ideals of professional integrity and a spirit of service to humanity —and the American College of Surgeons was organized. It is a great honor to be able to write, "F. A. C. S." after one's name. It stands for real achievment.

Somewhat later the men who were interested in internal medicine, in whatever field —the neurologists, phthisiologists, laboratory workers and practitioners—saw the same sort of light and it led them to the foundling of the American College of Physicians—an organization no less dignified than that of their surgical brethren and representing the same type of ideals of integrity and service. The letters "F. A. C. P." after a man's name mean something very real and very worthy.

Associated more or less directly with the College of Physicians, is the American Congress on Internal Medicine—an organization somewhat broader in its appeal, in some ways, and numbering among its members some of the keenest clinicians in this or any other country.

We have attended a good many medical meetings, of various kinds, in our time, but never one where the spirit of brotherhood and mutual helpfulness was warmer nor the general quality of the material presented higher than at the recent meeting of the College and the Congress at Detroit. We have tried to give you a little taste of it on page 239 of this issue, and you will find other bits, here and there, in this and subsequent issues, if you watch for them.

The meetings lasted through a week. All the hospitals of Detroit opened their doors and their hearts to us and the mornings were spent in attending clinics and demonstrations. The material was so varied that every man there had a chance to see the things which interested him most.

The afternoons were devoted to the presentation of technical and clinical papers of the highest value, and in the evenings there was some more of the same—but it was so good that it never became tiresome and was enlivened by social affairs, including the Annual Banquet and Ball, on Wednesday evening.

Thursday was spent at Ann Arbor, attending clinics at the great, new University Hospital (about which we are going to write a real story soon) and looking over the important medical center which is developing there.

We wonder why we have been missing these meetings in the past and why more physicians are not taking advantage of them. The attendance was large—over 1000—but there is room for many more, and we hope to meet a lot of you at the session next year.

Learning without thought is labor lost; thought without learning is perilous.—*Chinese Proverb.*

VACATION STORIES

By this caption, we do not allude to the traditional flights of piscatorial imagination which are frequently associated with weeks spent in the wilds, but to sound, sane practical stories of vacations well spent.

It is now time for everyone who has put in a hard winter of work to begin planning the form which his vacation is to take this year. Don't say you can't take a vacation, for every worker owes it to his associates, his family and himself to pull out, for a while, and give others a rest from him while taking a rest from others.

For some general suggestions along this line, get out your CLINICAL MEDICINE for last June and read the vacation editorial, on page 356.

But, we want something more than generalities. We want stories of the *satisfactory* vacation trips that some of you have taken, with concrete facts and figures as to where you went, what you did, how long you stayed and what it cost you.

If it was a fishing trip, what tackle did you take and what kind of fish did you catch? If it was a hike, how did you equip yourself; where did you sleep and eat; and what did it cost? Same sort of things about auto trips or anything else worth while.

We do not desire to publish a series of travelogues. Of course, the woods and fields and streams are lovely, and we know you enjoyed them. Likewise, it is a pleasing and highly profitable exercise to translate these emotional experiences into words. Write the story of your trip, in full detail, by all means—but send it to one of the literary magazines which pay for such material.

We want concrete facts, tersely stated, which will help others in planning their own vacations. Write as you would be written to—and write *quickly!* For the May number we should have your stuff by April tenth and by May tenth for the June number. That will be about all, unless we get something phenomenally good which we just *have* to publish.

To be entirely at leisure for one day is to be for one day an Immortal.—*Chinese Proverb.*

EXPERTS BY ELECTION

A good many quiet sneers—and some not so quiet—have been provoked by the old Army expression, "An officer and a gentleman". Of course, we all realize that the constituted authorities can, by giving a man a commission, make him an officer; but the President of the United States himself, even "by the advice and consent of the Senate", cannot make a man a gentleman. That high estate comes only by wise and diligent training and personal effort.

It is, however, astonishing to find how many "experts" there are in the country who are such only by appointment, election or public opinion.

A number of our presidents have been elected to that office, not because they had any predominant administrative ability but because they were good soldiers, good lawyers, good teachers or adroit politicians.

A number of our Secretaries of War have been men who did not know "fours right" from a mess-kit, at the time of their appointment; and several of our Secretaries of the Navy would have been hard put to it to tell the difference between keelhauling and a jibboom.

Just now the papers are devoting a good deal of space to the religious views recently expressed by Luther Burbank. Now, Burbank is one of the greatest authorities on advanced experimental horticulture that ever lived, but does that qualify him as an expert in theology? It does not!

Because you and I are good doctors, does that make our opinion regarding King Tut's tomb any more valuable than that of the hod-carrier who reads the paper? Hardly!

Henry Ford knows antomobiles and business; Edison knows electricity; but that does not qualify them to give expert opinions on jazz, short skirts, impressionistic art or the higher criticism.

In our own profession there are some who are open to the same sort of consideration. Most of the men who hold high offices in the Councils of the State or Nation are well qualified for the positions they fill—but not all.

All boards of registration are not composed of competent and highminded altruists, nor does membership in the most dignified and exclusive medical bodies always assure the degree of erudition and ability which such membership is supposed to connote.

The expert surgeon is not always a reliable authority on infant feeding, nor does it follow that the most eminent pharmacologist or laboratory research worker is the man best qualified to assist a sick man to recovery.

We are far from belittling the importance and value of the dicta of medical authorities. These are men who, in almost every instance, have reached their position of eminence by years of painstaking labor and study and by whole-hearted devotion to the cause of science. In their respective fields, their advice and suggestions should be listened to with eager respect, and accepted until it is proved to be erroneous. In *other* fields their opinoins are just as valuable as those of other studious and thoughtful men —and *no more so.*

Let us all keep our eyes and ears and minds *wide open* to receive helpful ideas. Let us render respect and honor, freely and gladly, where these are due. But let us keep our feet on the ground and our heads on the top end of our spines; use our common sense, if we have any (if not, let's get some); and refuse to be dazzled by the glamor of position or stampeded by the noisy vociferations of unenlightened public opinion.

Leading Articles

Recent Developments in the Technic of Regional Anesthesia*

By WILLIAM R. MEEKER, M.D., Mobile, Ala.

(Formerly with the Mayo Clinic)

LOCAL anesthesia is rapidly becoming a valuable adjunct to the work of the expert surgeon. It is now generally recognized that it not only may be a life-saving measure in the surgical treatment of old and debilitated patients but that it is a method that may be successfully employed in a number of major surgical procedures routinely. The extension of the field of local anesthesia to include these major operations has been made possible largely by the more recent development of regional anesthesia. This technic has greatly broadened the scope of the local anesthetic procedures and has placed a method at the disposal of the surgeon the value of which is not yet fully appreciated.

Local Anesthetic Methods

Local anesthesia began with a purely peripheral technic in which the tissues of the operative field were copiously infiltrated with anesthetic solution. This today is known as infiltration anesthesia and terminal or peripheral infiltration.

A larger area may be anesthetized by interrupting the conductivity of the nerve trunks outside of the operative field, which is termed regional anesthesia. In this method no anesthetic fluid is deposited in the operative site proper. The desensitized area is larger than in terminal infiltration and the anesthesia is distinct from the operation proper, being instituted beforehand.

These methods may be illustrated in the removal of the benign tumor shown in Fig. 1. Terminal infiltration affords excellent anesthesia, although the massive edematization often distorts the landmarks of the operative field. The tumor may also be anesthetized by surrounding it with a wall of solution if it is located near the median line; or, if located farther to one side, by intersecting the nerve trunks, proximally, with a wall of solution on the one side only. This is known as field block. The essential feature of technic here is the even distribution of solution by fanwise injections in the same plane and in such a manner that a perfect wall of fluid has been formed, so that at no place in the wall may a nerve trunk or filament pass through to the operative field unblocked.

Anesthesia may also be produced by the injection of the single large nerve trunks distributing to the operative area. (Fig. 1) Cranial and spinal nerves may be injected at their exits from the skull and spinal canal. A wall of anesthetic solution is not employed here. By making use of the constant anatomic relations of the large nerve trunks to the bony prominences, the needle may be advanced to such close proximity to

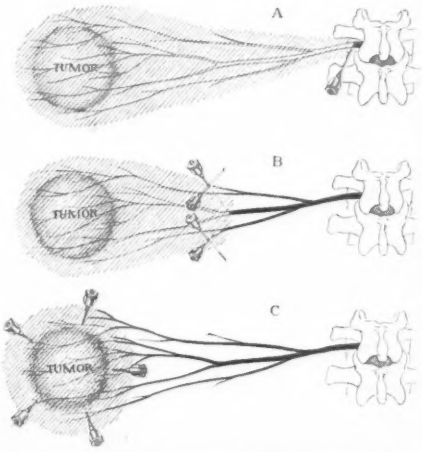

Fig. 1. The three methods of local anesthesia with explanation of terminology. A, nerve block; B, field block; C, terminal infiltration.

*From the laboratory of Surgical Research, University of Illinois, College of Medicine, Chicago.

the nerve trunk that a single paraneural injection of sufficient amount will include the nerve trunk in its zone of diffusion through the contiguous tissues.

Regional anesthesia thus includes two essentially different technical procedures, field block and nerve block. It is with a consideration of the technic, limitations and actual practical value of these two methods of regional anesthesia in the various locations of the body that this paper is chiefly concerned.

Field Block

Field block is especially applicable to the removal of superficial benign tumors. A diamond-shaped area surrounding the growth is marked out by four dermal wheals (Fig. 2). From these anesthetized points, fanwise injections are made in four planes converging to a point underneath the base of the tumor. This is a highly useful method but applicable only to limited areas. It is particularly suitable for cysts, superficial tumors of all sorts and chronically inflamed areas where injection of the pathologic tissues is to be avoided. Areas of the scalp are easily circumscribed in this manner, injections being carried directly down to the pericranium, (Fig. 3).

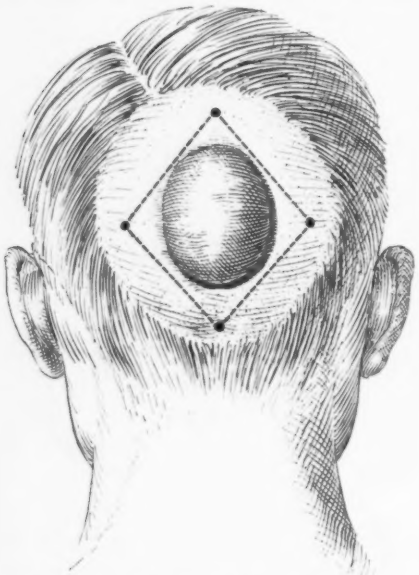

Fig. 2. Field block for a cyst of the scalp. Fanwise injections are made from four points underneath the tumor.

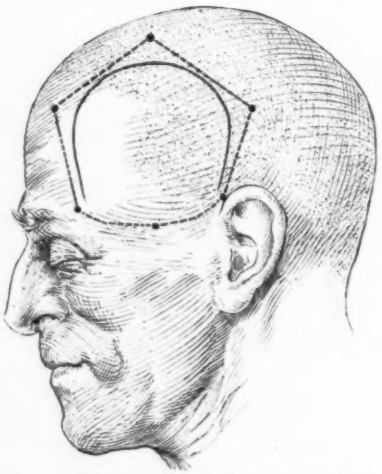

Fig. 3. Wheals marking points for injection for an osteoplastic flap. Injections are carried underneath the pericranium to the skull.

Circular field block is applicable to anesthesia of the fingers, toes, metacarpal and metatarsal bones. A ring of novocaine (procaine) solution around the base of a finger or toe, carried well down to the periosteum, gives distal anesthesia of the phalanges. The corresponding metacarpal bone may be included by extending the planes of solution proximally, into the hand or foot, from either side of the phalanx,

Fig. 4. Anesthesia of a finger with portions of the palmar and dorsal surfaces.

then surrounding the base of the bone. (Fig. 4). The same principle may be applied to the great toe and the first metatarsal bone in the removal of bunions, (Fig. 5).

Fig. 5. Field block for disarticulation of the great toe or the removal of bunion.

Circumferential injection of the terminal rectum produces satisfactory anesthesia in most cases of hemorrhoidectomy and operations for anal fissure. The technic is so simple and quickly executed that many surgeons employ it in preference to a general anesthesia.

The anus is enclosed by four dermal wheals, (Fig. 6), from which deep fanwise injections are made with a guiding finger in the rectum, (Fig. 7). The dermal wheals are then connected by subcutaneous injections so that a wall of anesthetic medium the shape of a hollow cylinder is made to encase the terminal rectum, (Fig. 8).

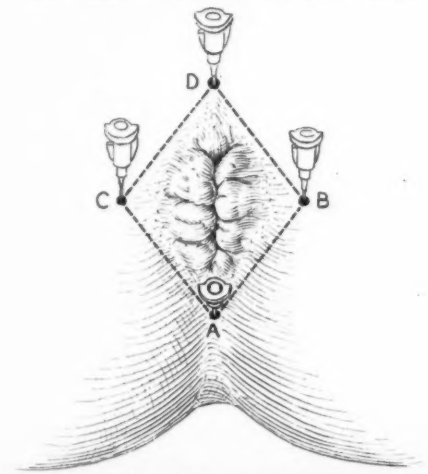

Fig. 6. Field block of the terminal rectum and anus.

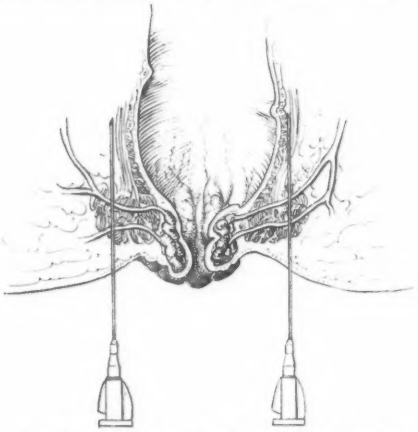

Fig. 7. Circuminjection of the terminal rectum.

Small perineal fistulae and fistulae-in-ano, when not too painful and in which the course of the fistulous tract is definitely determined, may be thus encased by a wall of solution.

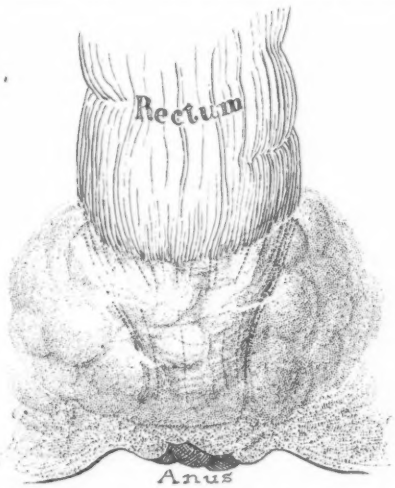

Fig. 8. Terminal rectum and anus encased in a wall of anesthetic solution the shape of a hollow cylinder.

Herniorrhaphy

There is probably no commonly performed major operation that is more inviting for

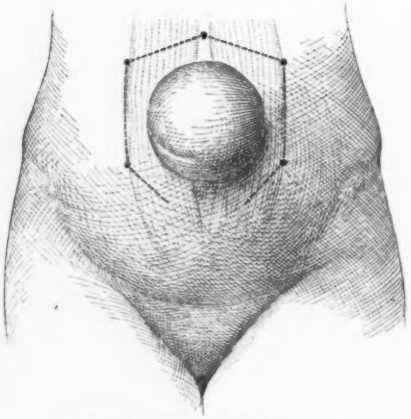

Fig. 9. Field block for umbilical hernia.

local anesthesia than that for the repair of hernia. In strangulated hernia infiltration methods are excellent. Dragging and pulling on the organs within the sac may cause pain. In umbilical and ventral hernias the distribution of the nerves involved, usually converging from both sides to the hernia, makes the circular method of field block quite applicable, (Figs. 9 and 10).

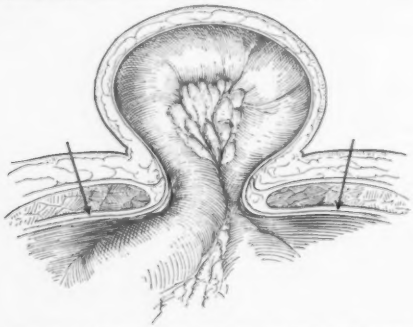

Fig. 10. Cross-section through an umbilical hernia showing depth of injections.

In the repair of the average inguinal hernia, regional methods are often employed. A plane of novocaine, (procaine) solution is first projected, (Fig. 11) obliquely across the iliac region from the iliac spine to the margin of the rectus abdominis muscle, which blocks the eleventh and twelfth thoracic, the iliohypogastric and ilioinguinal nerves and their branches. From a point internal to the pubic spine, fanwise injections are made upward in the median line, then laterally along the horizontal ramus of the pubis as far as the femoral vessels. The cord structures are then transfixed and injected at the external inguinal ring. The genital branch of the genitocrural nerve is then blocked by an injection between the iliac fascia and the psoas muscle (Fig. 12). A point just lateral to the femoral artery and below the inguinal ligament is marked by a dermal wheal from which the needle is advanced obliquely upward at an angle between 30 and 45 degrees, while the solution is distributed in a fanwise manner. The addition of a circular injection of the base of the scrotum at the abdominoscrotal juncture will permit painless operations on the scrotal contents, employing a high abdominoscrotal incision.

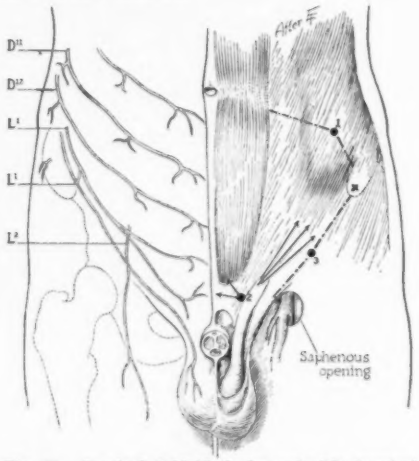

Fig. 12. Inguinal field block for reducible inguinal herniorrhaphy.

Paravertebral Nerve Block

Blocking of spinal nerves by injections at the intervertebral foramina has been practiced at all levels of the spine. This method has also been called segmental or cross-sectional anesthesia, anesthetized segments corresponding to the particular nerves blocked.

The practical value of this method varies with the different levels of the spine, especially as to whether the thoracic and abdominal cavities are invaded. It is of greatest value, therefore, when applied to cervical and sacral nerves.

Cervical Plexus Block

Operations on the structures of the anterior triangles of the neck may easily be performed under terminal infiltration. In thyroidectomy the whole anterior region is well infiltrated, underneath the platysma, which allows the flaps to be dissected up. The prethyroid muscles are then well injected, particularly at the sides. The gland is

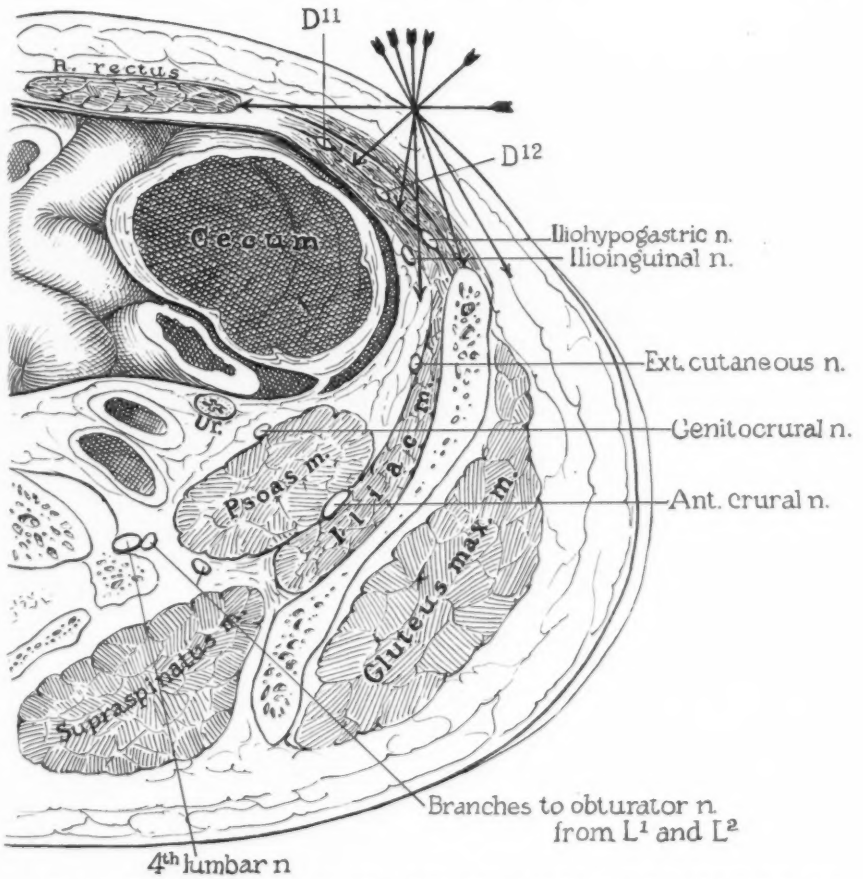

Fig. 11. Right half of oblique cross-section of the abdomen passing through a point an inch above and medial to the anterior superior spine of the ilium and the umbilicus. Note the relationships of the nerves and the fanwise injections from a single point.

then infiltrated laterally and posteriorly, special attention being paid to the upper poles. The operation can then be concluded without further injections.

When the anesthesia is to be induced apart from the operation proper, cervical plexus block is best employed. The safest method for this procedure is the lateral oblique approach, in which the needles are advanced to the transverse processes of the second, third and fourth cervical vertebrae from above obliquely downward. Injections are begun at the transverse processes and continued as the needle is withdrawn (Fig. 13). Subfascial fanwise injections are then made in the same plane so that at completion a wall of solution extending from skin to transverse processes has been made. Thyroidectomy, laryngectomy and the removal of thyroglossal duct cysts and diverticula of the esophagus have been repeatedly performed with this method of anesthesia.

Sacral Nerve Block

Blocking of the sacral nerves may be accomplished by the injection of anesthetic solution (1) into the sacral canal—called epidural, extradural, sacral and caudal anesthesia; (2) by paraneural injection of the nerve trunks at their exits from the anterior sacral foramina called parasacral, presacral and anterior sacral nerve block; and (3) by paraneural injection into the posterior scaral foramina—called posterior sacral or transsacral nerve block.

A more constant anesthesia, the height of which is always limited, and without the necessity of waiting for the diffusion of

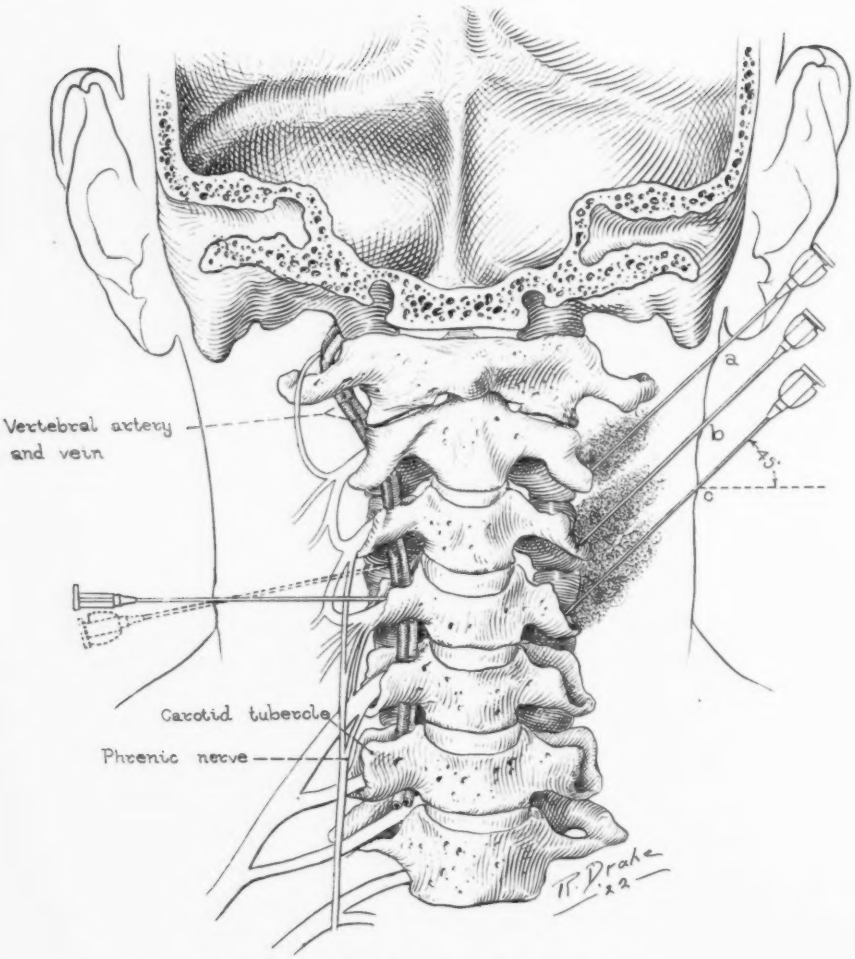

Fig. 13. Cervical plexus block by the lateral oblique route.

the solution, results when an injection into the lower part of the sacral canal is combined with injection of the four posterior sacral foramina.

The patient is placed on his abdomen with a cushion under the hips which elevates the buttocks and accentuates bony prominences. The sacral cornua and fourth sacral spine are then palpated. These include a triangle guarding the entrance to the sacral canal (Fig. 14). A dermal wheal is placed in this triangle and a fine spinal puncture needle introduced through the skin at an angle of 20 to 30 degrees. It will be felt to pierce a dense membrane then strike the bone of the anterior wall. It is then further depressed until thought to be parallel to the sacral canal and advanced upward about 3 cm. An injection of 20 to 30 Cc. of a one-percent novocaine-adrenalin (procaine-epinephrin) solution is then made as the needle is gradually withdrawn.

The lateral foramina are then injected. The posterior superior spine of the ilium is palpated and a wheal placed one inch medial and one-half inch downward, which marks the second foramen. Another just lateral and below the sacral cornu marks the sacral notch at which point the fifth sacral nerve passes. This space is divided into three equal parts by two more wheals marking the third and fourth foramina. Another wheal the same distance above and in the

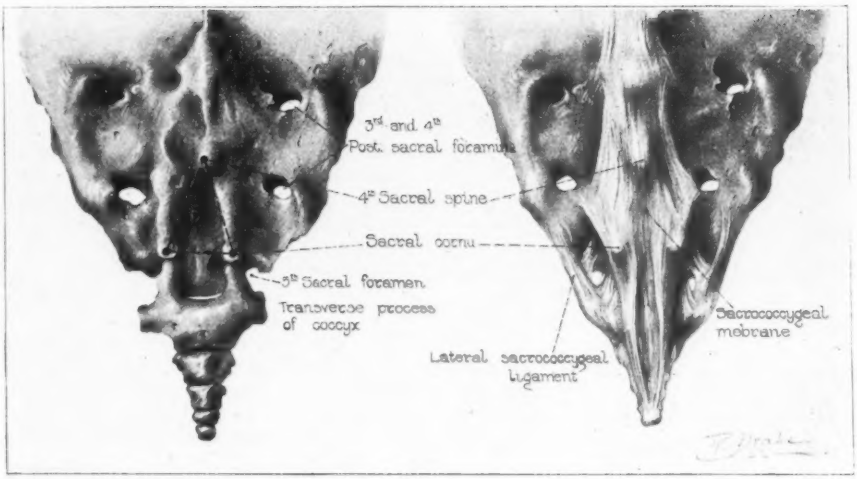

Fig. 14. Anatomy of sacral hiatus. In the figure to the left (✠) marks the site of puncture for entrance into the canal. To the right the hiatus is covered with the sacrococcygeal or obturator membrane.

same straight line marks the first foramen. (Fig. 15). Search is then made for these foramina until the needle advances farther than usual and still does not encounter bony resistance, when it has passed into the foramen. From 4 to 7 Cc. of solution

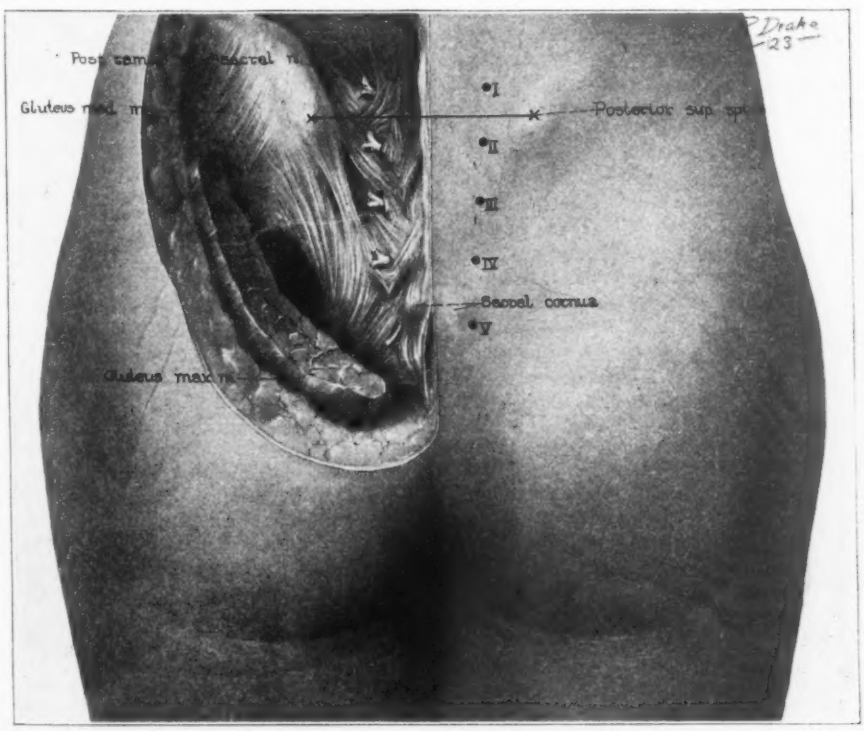

Fig. 15. Transsacral nerve block. Note the relation of cutaneous points to the posterior superior spine and sacral cornu on the right side. Soft tissues have been removed on the left side exposing sacral foramina.

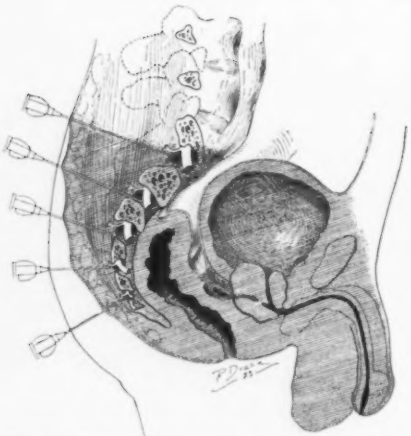

Fig. 16. Transsacral nerve block. The shaded area represents the extent of anesthesia.

are then injected into the foramina, the larger amounts being injected into the higher ones.

By this method the entire pelvic floor and viscera are anesthetized (Fig. 16). Resections of the carcinomatous rectum, amputations of the prolasped rectum, and plastic operations on the rectal sphincters have been performed many times by this method. Perineorrhaphies, trachelorrhaphies and the complete extirpation of the carcinomatous urethra are readily performed. External urethrotomy and perineal prostatectomy have been repeatedly performed, and, with the addition of abdominal wall field block for the suprapubic incision, resections of the bladder and suprapubic prostatectomy may be done.

Thoracic and Lumbar Nerve Block

Aside from the cervical and sacral regions I have found paravertebral nerve block to have but a limited field of usefulness. It is most satisfactory in laminectomy and in the Hibbs operation, in which anesthesia of the anterior divisions and sympathetic communicating rami is not necessary. It may be employed in thoracoplastic work, although the nerves are usually more easily accesible farther along their courses.

It was originally hoped that in bilateral paravertebral nerve block a practical method of local anesthesia for abdominal operations had been evolved. After a complete trial this method has been abandoned even by the early advocates. As is evident anatomically, the technic is highly complicated, time-consuming and tedious, which would not of itself be a disadvantage if anesthesia were not so often incomplete and never of the type of "abdominal silence" seen in ether narcosis or spinal anesthesia. The deep and by no means painless injections have to be made from several points. Often repeated search has to be made in the same interspace and the field tested and reinjected, even by the most expert, making the anesthetic procedure an extensive operation in itself. In spite of the deep preliminary hypodermic narcosis the insufficient nerve block anesthesia must often be supplemented by inhalation anesthesia. The injections themselves are not free from risk, and toxic symptoms are often produced by the large amount of solution employed. It is not surprising then that no rivalry exists between bilateral paravertebral nerve block and general anesthesia for abdominal operations.

Splanchnic Nerve Block

More recently attention has been turned to interruption of conductivity of the splanchnic nerves, and during the past five years many small series of abdominal operations under this type of anesthesia have been reported. This procedure is based on the erroneous conclusion that the intra-abdominal pain during operation is visceral pain, conveyed centrally over the splanchnic nerves. The abdominal viscera themselves, however, have time and again been shown to be insensible to pain in so far as the cutting, crushing and cauterizing of operative work do not constitute the adequate stimulus to the production of such pain. This fact was first observed and extensively studied many years ago and has been confirmed by the whole host of surgeons operating under local anesthesia, and is, therefore, incontrovertible by animal experimentation.

A close analysis of the patient's behavior during an upper abdominal operation under local anesthesia without splanchnic block, as compared to a similar operation with the splanchnics blocked shows that pain is produced by the same stimuli in both cases. This pain arises from stimulation of spinal nerve filaments innervating parietal peritoneum, bases of mesenteries and rim of the diaphragm, and not from sympathetic nerves. Traction on viscera is the most frequent cause of pain and is tolerated much less when there are adhesions to the parietal peritoneum, or regional inflammation. Pain is experienced when saline packs are placed between viscera and parietal peritoneum and when they are removed, but

placing compresses between different viscera is not painful when the parietal peritoneum is carefully avoided and no traction on mesenteries is made.

At present, therefore, success in abdominal operations under local anesthesia still depends upon the proper selection of cases, deep preliminary hypodermic narcosis and on very gentle management after laparotomy. Blocking of splanchnic nerves is the feature of least importance for such success: Indeed, its only possible value, in addition to toxic depression, is block of the spinal rami proceeding to the base of the mesogastrium at the site of injection. This method therefore will have no future as a practical system of anesthesia for abdominal surgery.

Psychic Care

The mental apprehension natural in a patient about to undergo an operation may be considerably allayed by the proper preliminary administration of a sedative drug. The object of this is in no way to combat pain or to smooth over an otherwise inadequate local technic but to produce an attitude of calmness. Worry and fear may make an operation a decidedly gruesome experience even though the operative field is completely anesthetized.

Crile has long taught that apprehension and fear lead to depletion of bodily reserve, with demonstrable tissue changes, and Cannon has proved that strong emotion depletes the adrenal reserve. The mental attitude is certainly a great factor is determining the safety of surgery.

The best preventive of fear is the patient's faith in his medical advisors and they should cultivate such faith by kindly optimism, which is warranted even when the outlook is grave. The cooperation of every person connected with the patient is necessary in order that he may go to the operating room in a confident and tranquil mood. Often a patient will anticipate trouble because a clerk or orderly has given advice as to the kind of anesthesia, ignorant of the harm being done.

It adds much to the mental ease during operation if the patient's attention is engaged by conversation with the regular anesthetist or a tactful assistant. The assistant may also administer small sips of water, sponge the patient's face and serve as the psychic or vocal anesthetist. The responsibility of the regular anesthetist in such cases is even greater than if he were administering a general anesthesia. In thus obtaining control of the patient's attention it is possible to avoid any alarmed or turbulent mental condition which might interfere with a necessary surgical procedure.

Surgical Strategy

Not only should the demeanor of the entire operating room force be different because of the patient's consciousness, but the surgeon must employ an essentially different technic under local than under general anesthesia. Speed must often be sacrificed to gentleness. He should be patient, calm and content, even in spite of short delays. In regional anesthesia it is important to wait sufficiently long for anesthesia to become established. The surgeon must be skilled in clean operative dissections. He must refrain from traction, pulling, rough gauze dissections and unnecessary trauma to tissues. More surgical strategy is required while operating under local anesthesia, all of which is in accord with the best interests of the patient.

The struggle and strife created in certain quarters between local and general anesthesia is unfortunate. Local anesthesia can never supplant general anesthesia. Its purpose is to be used jointly with general anesthesia, each in its proper field of usefulness, always for the best interests of the patient.

The proper amount of general anesthesia, given in the proper way, almost always produces a good operative condition; but the proper amount of a local anesthetic drug, given in the proper way, may not give a favorable operative condition because of the factor of consciousness. For this reason local anesthesia is more to be regarded as a system of operating than a kind of anesthesia.

This valuable surgical adjunct should first be mastered in all its details by the surgeon himself. The surgeon who has been accustomed to general anesthesia for a number of years only courts failure when he attempts an occasional operation under local anesthesia, even though he may employ an expert to inject the patient. Whatever be the subject under consideration, one should first study the principles of a method and the circumstances attending its practice before attempting to use it. It should be understood that unless the requirements of the method have been satisfied favorable results will not be obtained.

Surgeons who are expert in the employment of local anesthesia have shown that

it may be used to advantage in from fifty to seventy-five percent of cases in general surgical practice, and the dangers incident to general narcosis may thus be avoided. A more extended use of this system of operating, and more gentleness, patience and perseverance in spite of occasional failures and the aversion of certain patients will result in signal benefit to most cases and in the general advancement of surgical practice.

109 North Conception St.

Galvanotherapy

By ELKIN P. CUMBERBATCH, M.D., London, England

I SHOULD cordially recommend to you to adopt the galvanic current for electrotherapeutics, and I hope I shall be able to convince you of its value when I have said what I am going to say.

Some men have told me that they prefer one current, and some another. I, myself, prefer all of them. Each one is particularly indicated for its special diseases, just in the same way that a table-cloth is a very good thing for putting on the table, but I should not care to use it for a pocket handkerchief.

When you pass the galvanic current through the tissues of the body, certain changes take place; there are chemical changes and physical changes; changes which are difficult to say are either chemical or physical or ionic, and in response to these changes there are certain changes in the functions of the tissues, which we will call physiological.

When you connect your body to any electromotive force, the ions in your tissues migrate; they move in definite orderly directions. As a result of this movement you get these particular changes which I have mentioned.

Chemical Changes

I will give you an illustration of that method of action and how you apply it scientifically to treatment of one particular disease: Suppose you take a couple of platinum needles, put them side by side on a piece of moistened litmus paper, and connect them in a galvanic circuit. You will note that the litmus paper turns red under the positive and blue under the negative. You have produced chemical changes where the metal makes contact with the litmus; similarly, if you place two platinum needles in your tissues and pass a current you will get chemical changes around the positive and around the negative.

The chemical changes are the formation of acid around the positive and alkali around the negative; these chemical changes have caustic properties and can destroy tissue. An illustration: If you have a baby with a cavernous nevus—a nevus which is mainly below the skin, causing a fluid swelling—the best treatment for that is what we may call electrochemical cauterization on the principles which I have described. When a baby comes to my clinic it is given a general anesthetic, and a bunch of platinum needles on a holder (two, three, four, or five, according to the size of the tumor) is passed into the nevus. The current is switched on and increased according to the number of needles. As a rule we use about twenty milliamperes for each inch of positive needle.

Chemical substances which I have described form around the needles; these destroy the bloodvessel walls and coagulate the blood. The nevus now contains a clot which is ultimately replaced by fibrous tissue and you get an excellent cosmetic result. If you insulate your needles just at the part where they make contact with the skin, you will not damage the skin, and the final result is perfect. That, then, is an example of the use of the galvanic current in production of chemical changes, and I think the best word to use for such treatment is electrochemical cauterization. We use the continuous electric current to produce chemicals and those chemicals cauterize.

The old terms used to be electrolysis and surgical ionization, which are not particularly elegant terms.

Ionization

Another example of the chemical action of the continuous current: If you have an ulcer and you place in contact with that ulcer zinc metal or a solution of zinc salts and connect the pad or the rod to the positive galvanic current, ions of zinc will migrate into the pathological tissue and cauterize it.

What is the advantage of that method over simple application of a solution of zinc sulphate? A solution of zinc sulphate

placed in contact with an ulcer will destroy bacteria only on the surface, but if the ions of zinc are made to migrate into the tissue you will destroy organisms underneath.

The destruction is absolutely complete; every cell, every nucleus, of every intercellular space through which current passes is permeated by zinc ions.

Let me give you an example of that: There is a form of ulcer of the cornea known as Mooren's ulcer. It resembles a rodent ulcer, although the pathology is somewhat different; that ulcer spreads and destroys the cornea; often it heals at the base but it spreads at the edges and it is an extremely difficult ulcer to heal.

The way you treat that is to find out which is the active ulceration by staining with fluorescein. Procure local anesthesia of the cornea, take a zinc rod with a rounded end, a millimeter in diameter, put it in contact with a portion of the active ulcer, increase the current to a milliampere, or two milliamperes, and move it ever so slowly over the ulcer and you can see with your eye what takes place. The corneal tissue in contact with the metal and for a short distance around becomes perfectly white from the entry of the zinc ions and the formation of zinc albuminate. You have cauterized the whole of the tissue in a thorough manner and after repeating the treatment for a few applications the ulcer is healed.

Endocervicitis

I want to give you another example of the usefulness of the galvanic current for treating another intractable disease, that is, in the treatment of endocervicitis, not gonococcal, because I prefer the diathermy for that, but endocervicitis caused by other organisms.

The French workers introduced the method. They put in contact with the tissues lining the canal of the cervix a zinc or a copper rod, and connected it to the positive pole which caused the influx of zinc or copper ions into the mucous membrane. The French people, on some occasions, use the negative electrode. The negative electrode in contact with the affected tissue produces caustic soda, which is destructive of tissue and produces hydroxyl ions, which, being light, migrate rapidly and pass into the tissues of the cervix.

Caustic soda is a caustic; hydroxyl ions are caustic; they are the cause of ionization burns which you always try to avoid.

The method which I use for treating an endocervicitis is a combination of the two; for the first three applications I use the metal electrode connected to the negative pole. That is followed by physiological changes of which the most important known is increase in secretion from the mucous glands. That is obvious; you can see it and it persists for a long time after the current has ceased. The glands which form the major portion of the tissues of the cervix are freely drained from within outwards. Other changes take place; there is an exudation of fluid, perhaps lymph from the tissues of the cervix. That has the effect of giving a thorough drainage to the infected cervix.

On the fourth application I use the same electrode and connect it to the positive pole and cause ions to migrate into the tissues.

I differ from other men in this respect in using much bigger currents than other people do. The French workers recommend twenty to twenty-five milliamperes. I go up to fifty, sixty, seventy, or eighty, and I have been up to 100 milliamperes.

Now, what have I done? I have produced a lining of zinc albuminate along the canal of the cervix. The tissues in contact with the metal, and perhaps for a millimeter or so deep, are converted into a firm membrane of zinc albuminate, and it is a *sterile* membrane.

I, myself, prefer, having done that, not to pull the electrode out by force and bring tissue with it, but rather to reverse the current for a minute and soften the tissue a little, and bring the electrode out easily, because it is my personal belief that a good part of the value of that treatment is due to the covering of the infected canal of the cervix with a sterile membrane which stays there, persists there for perhaps a week or ten days, or longer; as it is a sterile membrane, infection cannot grow upon it from the outside. That is the method which I adopted with success in treating infected endocervicitis.

Surgical Sinuses

Sinuses can be treated satisfactorily by the galvanic current if they are short and straight; if they are irregular, or narrow in some parts they are difficult, and if they are branched, you can not treat them, or if there is infected bone at the bottom of the sinus you cannot treat them.

During the War I adopted a treatment of the sinuses which seems to be more successful than the other method, and that is

to pass up the sinus a brass tube which will fit it just comfortably, and connect the brass tube with cannula containing a solution of zinc, let the solution run to the end of the sinus along the tube, pull the tube out almost to the skin so as to leave a track of solution behind it, push the tube back again, out again, backwards and forwards, as if you were playing a trombone, and eventually push it well home and connect it to the positive pole of your source of current. In that way there is more likelihood of bringing your solution in contact with all parts of the sinus.

Another valuable disinfectant ion is the iodine ion, and if you replace your zinc solution by a solution of iodine in potassium iodide, one-half percent of each, and connect your electrode to the negative pole, then you will introduce into your tissue iodide ions and iodine ions.

When iodine is dissolved, there is probably a new chemical formed, the nature of which is not known; but, at any rate the new chemical has a negative charge and that is driven into the infected wall of the sinus.

Those are examples of the chemical changes which you can see, and reproduce, and demonstrate, either on tissue or in vitro.

Cataphoresis

I want to give an example of the physical changes produced, and one of those is the passage of water from the positive to the negative pole. That phenomenon is known among physicists as cataphoresis, and the term, cataphoresis, should be reserved for that particular phenomenon. At present there is confusion with regard to the migration of ions from the outside and this passage of water. They were confused until Professor Leduc showed distinctly that they were different from one another.

Cataphoresis, the passage of water from positive to the negative pole, is probably illustrated by the adhesion of the positive electrode to the tissues; it may be of value in treating trauma.

Suppose you have a sprained ankle and fluid effusion; you will get good results by applying the galvanic current to that joint.

It was first taught by a German, towards the end of the last century; I believe his name was Remak. It is likely (I cannot prove it, and you cannot disprove it) that relief is due, partly at any rate, to this depleting effect upon the joint, the passing of water from the positive to the negative.

There is another physical change which takes place, and that is the migration of colloidal particles. They are too big too migrate through membranes and we cannot say at present what relation this migration has to therapeutic effects, so we will leave it at present in its native state of darkness.

Another point is, bacteria in suspension or loose in tissue fluids can be made to migrate to the anode, and that form of treatment has been adopted by one man, at any rate, in London, for treatment of chronic gonococcal urethritis. He passes a metal tube covered by a perforated rubber, into the urethra; he connects it to a positive pole and he shows, after the current is passed for a time, tissue and mucus containing gonococci adherent to the metal. The only man who has succeeded in doing that effectively is the originator of the method, Dr. Charles Russ, and I tell it to you in the hope that you may feel inclined to try it. I chose that more particularly as an example of one of the actions of the galvanic current.

Physiological Changes

In the depths of the tissues along which the galvanic current passes are developed certain changes, of which we know not very much. One of those changes is a physiological one, the production of vasodilatation, thereby increasing the blood supply to the tissue you want to treat. If you put one electrode around the thigh, another around the leg, and put a surface thermometer on the popliteal space and pass your current (it has to be fairly a strong one), your temperature will rise. That is not due, I feel sure, to the generation of heat. I feel that it is due to production of a vasodilatation. The temperature of the popliteal space is usually subnormal, and the temperature rises, but does not increase beyond normal.

There are other changes when you pass the galvanic current through the body, and one of those is the alteration in the excitability and conductivity of muscle and nerve —a phenomenon known as electrotonus.

When we come to the therapeutic effects of these changes taking place in the depths of the tissues, and rely upon clinical observations, we can say this: Provided the cause of the disease has disappeared, you can (1) aid absorption of inflammatory products; you can (2) relieve pain; and (3) relieve spasm. Those are the clinical results of the passage of the continuous current, and they are all due, directly or indirectly, to these chemical or physical changes which take place in the body.

I will mention one or two other forms of galvanotherapy which are useful.

Cerebral Galvanism

One of those is cerebral galvanism which was first described by Professor Leduc. That consists of the application of the galvanic current between the forehead and the back of the neck. Usually the cathode is placed on the forehead and the anode on the back of the neck. Sometimes it is reversed, but I don't think it makes much difference which is the polarity.

That treatment has a refreshing effect upon the tired brain and it is well worth a trial. I know the case of a lady who had it and she felt so much refreshed and her mental vision was so much increased that she insisted upon her husband, who was a judge, coming and having the treatment. Use weak currents; commence by using two or three milliamperes, and increasing up to perhaps about ten or twelve.

There is another application of the galvanic current to which I should like to call your attention, and that is its use in treating Raynaud's disease.

Raynaud's Disease

Raynaud's disease is difficult to treat, and in books on medicine you will occasionally find a recommendation to try the galvanic current. The patient usually has it applied from hand to hand; there is a much better method and more successful than that, and that is to pass the current between the hands, or feet, and the spinal cord. Put your negative electrode over the cervical enlargement of the spinal cord, in case of the upper extremities, and put the forearms and hands in water; connect those, of course, to the positive pole, and increase your current step by step to a maximum of about twenty-five milliamperes.

This treatment (and I speak from experience) will reduce the frequency, and severity of the spasms and make life more worth living, but it does more than that, and the patients will remark upon it without being prompted. They will tell you how much better they feel.

To conclude, I want to draw your attention to another form of treatment and I recommend that you try it and see what results you can get. That is a form of treatment which I have called galvanic aquapuncture.

Galvanic Aquapuncture

A patient, we will say, suffered from facial neuritis, or sciatica, or any form of neuritis, and we will reserve the treatment for chronic cases. I don't recommend its use for acute cases because these ought to be treated upon general medical lines first, but if the case has had that treatment and still complained much, the way you proceed with the treatment is this: We will assume it is brachial neuritis. You start with a current of a strength that the patient can just feel, then you proceed to explore with this weak current over the region where the patient says he feels the pain, and in a certain number of cases you will approach a certain part where the patient will give a gasp of pain; you have an acutely tender point.

Having done that, you put two blue lines one north and one south, and then you gradually work up until the patient looks the other way, because if they see you they will jump away; proceed slowly and gradually over the place and if it is a genuine tender point, they will give a jump and a wince, and say how painful it is, and this point is an extremely small one, the size of a pin's head.

When you have actually indicated it, and there is no doubt that it is a true point, you inject the spot with a little local anesthetic; then you take a needle and connect it to the negative pole of your battery, the positive being where it was before; then you pass it down the same opening that you made with your syringe; and then turn the current on, say, to one, or two, or three milliamperes, and pass your needle down below the surface and proceed to explore about under the skin, keeping your eye upon the patient all the time. They will suddenly tell you that is the spot, and the pain is reproduced in the region where it was felt before, or part of that region.

Having found the tender spot, you then keep the needle stationary and increase your current to the maximum degree of toleration, which is usually about five milliamperes, and let it run for five minutes; then you take it out, disconnect the battery, and in three days' time you hunt for a second, or third point. If you test that region you have treated you will find it is no longer tender. By that method you relieve a certain proportion of chronic, painful cases of neuritis.

The method was first described by a surgeon, Dr. Davies, a fellow of the Royal College of Surgeons, and he spent many years at a watering place in Wales doing that treatment, and the material there, of

course, was suitable material, chronic cases of painful shoulder, arm, or lower extremity, due, doubtless, to neuritis.

I have had as pupils in my department no less than three men who worked there, and have put them on to do the work, and I must say I can't describe it as a one-hundred-percent method. I think fifty, or perhaps forty-five, would be better, but it is valuable and some of the cases that won't respond to any of the things we have heard of will respond to that form of treatment.

The Care of the Nation's Feet

By J. L. PRITCHARD, M.S., M.D., San Jose, Calif.

THE general practitioner has never taken a great deal of interest in foot ailments. Even orthopedic surgeons are, perhaps, giving more attention to bone grafting, tendon transplanting, and fracture work, than they are to the commoner foot ailments. I would like to point out that foot defects are very prevalent.

Statistics of the Great War show that one or more foot defects were found in one out of five recruits. Let anyone walk a half dozen blocks on any city street and observe the feet of the crowd. It is easy to note hallux valgus, pronation, cramped toes, shortened tendo achilles and, hidden by the pointed-toed shoes, one knows there are helomas, calluses, and metatarsalgia in 75 percent of the pedestrians.

Perhaps not many realize that there are 52 bones in the feet (56 counting the sesamoids) or 25 percent of the bones of the body. This bony framework held together by ligaments, and strengthened by muscles and fascia, is a very important part of the anatomy. Yet, the foot is given but little intelligent attention notwithstanding, while it is expected to be on the job doing full duty whenever called upon.

It is sad but true that too large a percentage of the "Man Power of the Nation" is wearing splints for muscleless feet. Arch supports are merely splints, and they should not be used except as a temporary expedient. However, in practically every town of 25,000 population and above there are one or more lay persons making arch supports for all who apply, using the old plaster of paris method.

Another and stronger group is in the field, bidding feverishly for practice in foot ailments. Shoe manufacturers, powerful concerns selling patented arch supports, and retail shoe stores everywhere are getting into the game. Their advertisements are to be seen in every paper and magazine, medical and otherwise. The following were clipped from my home town morning paper of a recent date:

No. 1

"FOOT HEALTH WEEK STARTS TODAY"

"Crusade Against Foot Troubles Gets Under Way with Impressive Displays of Modern Means of Relief and Prevention."

"The focal center of interest is naturally ——Shoe Store, which has taken advantage of the unusual opportunity afforded it to display its complete stocks of foot comfort appliances and remedies in the windows and on the counters.

"A careful inspection of these various exhibits is in itself a liberal education. In the first place, they suggest the surprising variety of uncomfortable disorders that commonly beset the human foot. In the second place, they reveal to what great lengths modern science has gone to counteract the distorted and painful conditions that civilized man voluntarily imposes on his feet.

"On every hand, there are impressive displays of specific foot comfort appliances for instantly and permanently relieving tired, aching feet, weak, turning ankles, cramped toes, falling arches or weak insteps, callouses on the soles, or pain in the heels.

"We invite our visitors to have a free pedographic picture taken of their feet. The pedograph is an ingenious device for showing the exact condition of the feet as the first important step towards applying the proper appliance or remedy."

No. 2

"FOOT EXPERT"

"From Headquarters to be Here Monday, Tuesday and Wednesday, November 30th to December 2nd.

"Through special arrangements with Headquarters, a Wizard Foot Relief representative will be at our store during the above mentioned days. It is with satisfaction that we offer you his skillful foot relief service and expert advise.

FREE FOOT EXAMINATION

"Without charge a skilled examination will be made of your *stockinged* feet. You merely slip off your shoes just as you do in buying a new pair. The cause of your trouble will be revealed and you will be given the benefit of a test fitting which will convince you beyond any question that you may have relief. There is no inconvenience —absolutely no obligation."

But what is the Medical Profession doing for these sufferers? We frequently hear

from the Masters of Medicine and Surgery that the lesser ones in general are not making sufficiently thorough examinations. *That* may be true. I am convinced that the average doctor is not interested in pathology—below the knees.

Letting many of these cases go unrecognized is reprehensible, but the prevalent method of handling those that are diagnosed is a sad commentary on the efficiency of the present-day practitioner. Not being equipped nor trained to treat even the commonest foot ailments, the doctor either sends his patients to an incompetent to get arch supports, or to a shoe clerk who ministers to metatarsalgia and subluxated cuboids.

A distinct advance was made in the treatment of foot ailments during the Great War. Those of us who were assigned to the Orthopedic Section of the Army learned many a valuable lesson. Some of us since the war have been applying this knowledge in the treatment of civilian patients.

In every city with a population of 20,000 and above there is a field for an orthopedist who will give especial attention to the feet, and thereby bring relief to many sufferers, and render a distinct service to the Nation. These important physical ailments would then be properly treated, and by the medical profession by whom they should be treated.

We have Tuberculosis Associations, Cancer Associations, and Commissions searching for cures for many diseases, but not very much is being done to educate people in the care of their feet. Our soldiers must be drawn from the people; from the factory, the mine, the forest, the farm, the city street and the open country.

Unless something constructively preventive is forthcoming shortly, the next war will find us worse off in foot ailments than we were in the last.

Summary

1.—Foot ailments are very prevalent.

2.—The arch supports so much used are nothing but splints for muscleless feet. Arch supports should never be used except as a temporary expedient.

3.—Shoe stores are soliciting practice in ailing feet.

4.—The Medical Profession is not doing its duty toward patients suffering from foot ailments.

5.—More Doctors should specialize in the treatment of common foot ailments.

Saint Claire Bldg.

Notes From The American Congress On Internal Medicine*

Reported by GEORGE B. LAKE, M.D., Chicago

THE American Congress on Internal Medicine is one of the most important medical associations in the country and to its meetings come keen and enthusiastic men from all over North America.

The session this year was held in Detroit, Michigan, and the scientific meetings brought out so many points of intense interest to all physicians that it has seemed worth while to present brief resumés of the principal papers, in order that the material may be made available to the profession as early as possible. With this end in view, the following outlines are submitted, having been somewhat elaborated from notes made at the meetings by the reporter. All the papers will later be published, in their entirety, in the Proceedings of the Congress.

*Meeting at Detroit, Mich., February 22 to 27, 1926.

Causes of Pancreatic Secretion

By Dr. A. C. Ivy, Chicago

The pancreatic secretion is the most important of all the digestive juices, but less is known of its physiology than of any of the others.

There are three phases of this secretion: a cephalic phase, beginning within two minutes of the time food is taken and before any stimulation has had time to come from the stomach; a gastric phase, due to the stimulating action of the food in the stomach; and an intestinal phase, beginning when the acid chyme begins to enter the duodenum through the pylorus.

There is no cephalic phase for the gastric secretion, but there is one for the secretion of the intestinal juices.

Gastric Ulcer and Gastric Cancer

By Dr. Wm. C. MacCarty, Rochester, Minn.

Chronic gastric ulcers have a direct relation to gastric cancer, but duodenal ulcers have no such relation, cancer of the duodenum being exceedingly rare. It is therefore of the highest importance to differentiate between ulcers in these two anatomical locations, though this is not always possible, even by the use of the x-ray.

Not all gastric ulcers become malignant but some undoubtedly do so, and early diagnosis of cancer is possible only with the aid of the microscope. Early exploratory laparotomy in these cases frequently reveals early cancer which is still operable.

Discussion by Dr. Frederick G. Buesser, of Detroit.

In view of the facts that pathologists are by no means unanimous as to the significance of the findings in tissues removed from these cases at exploratory laparotomy, and that Bamberger states that malignant changes occur in only 3 percent of chronic gastric ulcers, there are many who still hold — with much justification — that the medical treatment of these cases is wholly warranted.

The Liver

By Dr. George W. Crile, of Cleveland

There are two organs without which the body cannot function and neither one of which can function in the absence of the other. These are the brain and the liver.

The liver is the first organ in the body to develop, and is always the largest of the organs. It produces at least one-third of the body heat.

Fatigue acts upon the liver and the brain simultaneously. Heat applied to the liver raises the temperature of the brain; and hepatic disorders often give rise to *hypothermia.*

A unicellular organism consists, essentially, of a nucleus and a collection of cytoplasm. There is considerable biological evidence to indicate that, in the complex and highly-developed organism, the brain is the chief representative of the nucleus and the liver of the cytoplasm.

A change of one degree in body temperature causes a change in chemical and biological activities amounting to 10 percent. It is, therefore, obvious that, as the liver is one of the chief thermogenic structures in the body, it is highly essential to satisfactory functioning that its heat be maintained.

When the abdomen is opened, or even when an ether anesthetic is given without laparotomy, the temperature of the liver and brain falls from 1 to 3 degrees, thus decreasing metabolic activity from 10 to 30 percent. If, therefore, the temperature of the liver can be kept up during an operation, the results will be highly satisfactory. This is best done by *diathermy.* The plates should be properly adjusted, laterally, before the abdomen is opened, so that heat will be generated in the liver. The treatment should continue throughout the operation, and be repeated once or twice a day, postoperatively, for several days. The results are surprising to many.

Pernicious Anemia

By Prof. Knud Faber, Copenhagen, Denmark

Pernicious anemia is probably due to an intestinal intoxication following upon the loss of the disinfecting power of the stomach consequent upon *achylia gastrica.* It is not due to intestinal atrophy—which is, to a considerable extent, a myth, resulting from faulty technic at autopsy—nor, directly, to the achylia, which condition has been known to exist for as long as 13 years without causing anemia of any sort. A continuance of the infection causes the disease to continue.

In the presence of continuing achylia, some persons will develop an anemia of simple type and others a pernicious anemia, the result depending upon innate perculiarities of the individual's constitution which determine the nature and extent of his reactions to the toxins present

In these cases, detoxication, with marked improvement in the symptoms and signs, frequently follows the protein shock due to intramuscular injections of *boiled milk.*

Discussion by Dr. Okar Klotz, of Toronto, Canada.

In pernicious anemia the best work has been done by the clinicians.

This disease is rare in the tropics, which may be due to the high percentage of *ultraviolet rays* in tropical sunlight and the great extent to which the bodies of the natives are exposed to these rays.

Discussion by Dr. A. C. Ivy, of Chicago.

In experimental achylia gastrica in dogs, produced by esophago-duodenal anastomosis, severe anemias frequently develop. The whole picture, in these cases, is improved by the combined administration of cod-liver oil and iron, though neither is effective alone.

Liver Extracts in Essential Hypertension

By Dr. W. J. MacDonald, of St. Catherines, Ont., Canada.

It has now been rather conclusively shown that the presence of certain amines in the blood causes a constriction of the arterioles, while others cause a dilatation of the capillaries. An imbalance in these substances gives rise to hypertension, and probably also to hypotension.

Our experiments have been carried on with liver extracts, but it is probable that extracts of other organs will be found which will produce the same results.

Our liver extracts have no anaphylactic action and contain a small quantity of histamin and a considerable amount of cholin, as well as some unknown substance, because the results are not the same as those following the injection of histamin or cholin, separately or in combination. The injection of large doses of histamin, alone or with cholin, causes a sharp fall in blood pressure, promptly followed (in 10 to 15 minutes) by a rise to the former level. Repeated injections show a decrease in the amount of the fall and cause the pressure to rise to a level higher than that preceding the injections.

Injections of liver extracts cause a fall like that produced by *much larger doses* of histamin and cholin, and the pressure does not return to its former level for 10 to 12 hours. Repeated injections result in the steady *diminution* of the point to which the pressure returns, instead of an increase.

In a number of clinical cases the fall in blood pressure resulting from a series of injections of liver extracts, given at intervals of 3 to 5 days, has been maintained for several months after the cessation of treatment. These injections produce the best results when given intramuscularly.

We have *not* yet found a specific for the treatment of essential arterial hypertension, but we hope we have taken a step along the road which will ultimately lead to the discovery of such a specific.

Raynaud's Disease and Erythromelalgia

By Dr. A. W. Adson, of Rochester, Minn.

In Raynaud's disease, erythromelalgia and other peripheral vascular disturbances of sympathetic origin, gratifying results have followed the complete removal of the 2nd, 3rd and 4th lumbar sympathetic ganglia, from both sides, with a severing of all sympathetic fibers and "gray rami" and the stripping of the common iliac arteries.

The Family Doctor as a Specialist

By Dr. Chas. G. Jennings, of Detroit (President of the Congress)

Medical science is, today, far in advance of medical practice. The intelligent and studious physician of 75 or 100 years ago had it in his power to master all the facts of medical science then known. This is now wholly impossible and progress lies in the line of a more intensive specialization and concentration of effort.

The family doctor of a generation or two ago has given us the model for our humanitarianism and our ethics but he is no longer able, alone, to give his patients the benefit of modern knowledge to which they are entitled. Group medicine—the association of specialists in various lines of work—is here to stay, and the "family doctor" must become the "visiting internist"—the master specialist, without whom no group will be complete.

The functions of the visiting internist will be to instruct his patients and their families in matters of personal hygiene and preventive medicine; to give them periodical physical examinations; and to care for them when they are ill with acute diseases and in the incipiency of chronic diseases. These are fields which are, today, almost entirely undeveloped or neglected by any of the recognized specialties.

Premedical and Medical Education

By Clarence C. Little, President of the University of Michigan, Ann Arbor

The present requirement of two years' premedical collegiate work is inadequate and the tendency now is to increase it to three years, beyond which it will probably never be necessary to go.

Even at the beginning of the premedical studies, it is a great advantage if the student can come to a decision as to whether he intends to be a clinician or a laboratory worker, so that his studies may be arranged with the selected end in view.

In the premedical years, four general classes of studies should be pursued: Those which deal with the *subject-matter* of the student's life-work, such as the fundamental sciences of physics, chemistry and biology; those which fit him for the *analysis of his patients*, from all standpoints, such as ethnology, elementary anatomy and physiology, genetics and sociology; those which look to the *development of his own personality* so as to adequately meet that of his patient, including such cultural studies as history, music and the arts; and those

which furnish him with the *basic equipment* for the practice of his profession, such as Latin and Greek, the modern languages, economics, accounting and business management.

These studies should be pursued for three years, for two reasons: because the extent to which the student will absorb the spirit of such instruction is in inverse ratio to the degree to which he is hurried; and for the reason that experience has shown that the man who begins his medical studies at 21 years of age gets more out of them than does the man who begins earlier.

We can see, at present, nothing which can replace the general practitioner, and serious efforts must be directed to the training of this necessary factor in our civilization. The people comprising the upper five percent of our financial masses, and those in the lowest fifteen percent, now receive the highest type of medical attention. We must devise some method for making such service available to the eighty percent in the middle.

It is just as necessary, for efficiency as a human being, that a man should continuously exercise his mental faculties as that he should keep himself in physical trim by playing golf or something of the sort. To this end it will be highly desirable to continue one or more of the cultural studies, for brief but regular daily or weekly periods, throughout the whole of the medical course so as to secure an even and flexible development of those mental faculties which are exercised apart from a physician's purely professional activities and give him pleasure and assurance in his social contacts.

Constitution in its Relation to Disease

By Dr. Geo. Draper, of New York

The idea that a person's general constitution has a direct relation to disease is nothing new. It was known long before the time of Hippocrates.

Disease is the result of the struggle of the individual against the pressure of his environment; and the specific defense-reaction of the individual is no less important a factor than the specific attack of the organisms causing the disease. Neither a certain human being (the patient) nor a certain microorganism (the meningococcus) *is* meningitis. The specific disease arises from the *interaction* between the patient and his environment, of which the meningococcus is a part. For the production of disease we need a *special type of man* as well as a special type of bacteria.

Heredity starts a man out upon the journey of life in a certain direction, which is changed, from time to time, in accordance with the impacts he receives from his environment. To adequately evaluate the situation we must study anthropology and practice anthropometry. We must carefully consider the patient from the various standpoints of anatomy, physiology, psychology and immunity.

Much study along these lines has shown, for example, that people whose faces are very short from nose to chin (turtle-face type) are especially prone to pernicious anemia; that people with a narrow upper jaw and a high palate frequently develop arterial hypertension—if the jaw is *very* narrow and the palate *very* high the tendency is to asthma and rheumatic fever; that gall-bladder disease and hyperthyroidism are more common in females, and gastric and duodenal ulcer in males.

The sex factor does not reside in the gonads alone but is distributed throughout the organism. Thus we find persons with perfectly adequate male gonads and the secondary sex characters of the female more or less markedly present; and vice versa. When we find gall-bladder disease in a male we will find that his body conformation approaches the feminine type, while gastric ulcer occurs only in females with a body of masculine type.

Until we have made a study of constitutional peculiarities in relation to disease we have not exhausted our diagnostic and prognostic resources; nor should we forget to study the psychological, as well as the morphological make-up of our patients.

Medical Work on Thyroid Disease

By Dr. Howard M. Clute, of Boston

Typical cases of hyperthyroidism are not hard to diagnose, but minor types of thyroid disturbance frequently go unrecognized and are classified as neurasthenia, effort syndrome, neuro-circulatory asthenia, etc. These minor types are not benefited by thyroidectomy, but true hyperthyroidism is.

Before doing a thyroidectomy we must clear up the heart, kidneys and digestive organs if the operation is to be successful; and we must follow up these cases carefully after operation.

Hyperthyroidism may resemble tuberculosis or gastrointestinal disease; or these conditions may simulate hyperthyroidism.

In hyperthyroid cases we must combat the high metabolic rate by securing rest

and quietness. In severe cases the patient must not see visitors or even receive letters.

We must keep up the nutrition. A hyperthyroid patient with a basal metabolic rate of +50, doing moderate physical work, needs *6,000 calories* per day to keep up his nutrition, and it is hard to get this amount of food into a patient without upsetting the digestion. We must give a diet rich in carbohydrates and other foods of high caloric value before operating.

Hyperthyroids frequently show pronounced dehydration and acidemia. We must fill them up with water and other drinks, such as lemonade, ginger ale, etc., but *no tea or coffee*, because these are stimulating. Glucose solution may be given intravenously.

Apparently mild cases of hyperthyroidism may "blow up" suddenly under physical or mental stress. We must watch for early signs of a coming storm and attempt to combat it by giving morphine and much fluid. If the storm develops we must combat hyperpyrexia with ice and meet other symptoms as they arise. Glucose solution, intravenously, helps in these cases.

Before giving iodine we must make a *pathological diagnosis*. This drug is of immense value in true Graves' disease, but cases of toxic adenoma are made worse.

Many thyrotoxics can live on for years in comparative comfort if given careful and intelligent attention and if they cooperate heartily with the physician.

Goiter and Heart Disease

By Dr. James R. Arneill, Denver, Colo.

The average physician is uncertain in his differential diagnosis of goiter, which results in many errors in its treatment. Iodine helps several varieties of goiter, but it ruins adenoma cases.

There are too many classifications of goiters and they are too complicated. [See CLINICAL MEDICINE, September, 1925, page 653.—ED.] Most men give it up in despair and simply prescribe iodine or *quinine hydrobromide*. This latter drug, by the way, is frequently of great value in controlling irritability in these cases. It is well to depend upon simple, practical rules and not lean too much upon specific signs and symptoms. It is also well to have several basal metabolism tests made.

Here are a few aphorisms which may be applied to these cases:

1.—In every chronic heart case look for toxic goiter. (Digitalis and quinidine will benefit uncomplicated cardiopathies.)

2.—In every psychoneurotic patient and those who show a loss of weight— apart from diabetes, tuberculosis, etc.—look for toxic goiter.

3.—In suspicious cases, fluoroscope for substernal goiter.

4.—Operate early, before irreparable damage has been done to the heart and nervous system.

5.—Use no x-ray in toxic adenomas.

6.—Malignancy generally follows adenoma.

7.—Adenomas should be removed before 40 years of age—some say before 25 years.

8.—"Goiter heart" may coexist with rheumatic or cardiovascular disease.

9.—Most "surgical deaths" from goiter are due to *vascular shock*.

Medical Aspects of Hyperthyroidism

By Dr. O. P. Kimball, Dayton, Ohio

It is never enough to diagnose exophthalmic goiter. We must locate possible infections, psychic factors and *all* associated conditions.

The diagnosis of typical Graves' disease frequently seems almost too easy; but we must remember that almost identical symptoms may be produced by acute *hypothyroidism*. In hyperthyroidism the history points to *persistent* increased metabolism, present *every day*, which is not the case in acute hypothyroidism. The basal metabolism test alone can give the correct answer. A big beefsteak will whip up the *cellular* metabolism, temporarily, but will not affect the *basal* metabolism.

Rest in bed is necessary in the treatment of hyperthyroid cases and—except in toxic adenomas—they should receive 1 to 3 cc. of Lugol's solution daily. Except in extreme cases, with an excessively high basal metabolic rate, the diet should be liberal and rich in proteins.

True Graves' disease (exophthalmic goiter) is not, *per se*, a surgical disease, but many of these cases need surgery. The best treatment is a thorough examination and careful guidance by an internist. Study and *know your patient* before deciding on a thyroidectomy.

Remember that exophthalmic goiter may suddenly develop in a patient who has had a symptomless *colloid* goiter for years. Early surgery is generally indicated in such cases.

A persistent thyroglossal duct suggests congenital adenoma. If the thyroid is normal in size you have no toxic adenoma.

Examine the substernal region and, if a tumor is found, remove the tumor tissue, *Rest the heart* for several weeks before and after.

Adenomas may become toxic from two causes: insufficient iodine and excessive iodine. Avoid iodine starvation—this substance is an important *food element;* use iodized salt—as well as its overuse by misdirected treatment.

Stomatology and the Medical Profession

By JOHN L. KELLY, D.M.D., New York City

THERE seems to be a confusion in the minds of medical practitioners, even those who are apparently well versed in dental matters, as to what stomatology is, its place in medical science and its importance as a specialty of medicine. The confusion is due to a misconception on the part of those interested in dental problems, who fail to differentiate stomatology as a branch of medicine, like ophthalmology, otology, etc., from dentistry which is not a branch of medicine.

Another cause for this confusion is the character of some phases of dental practice, which should logically belong to medical practice but which are, nevertheless, excluded from medicine. In order to make clear the significant place stomatology ought to occupy in medicine and consequently its value to the medical profession, I will attempt to show, briefly, the error in the historical development of dentistry in the United States. Once we recognize that tradition and not science makes impossible the reinstatement of dental practice under medical recognition, it will be an easy matter for the medical profession to act on our proposed plans, which aim to establish stomatology in the United States as a specialty of Medicine[1].

Mouth Infections and Systemic Disease

Let us consider first the scientific aspect which bears upon the correlation of clinical and experimental data of mouth infection and systemic ills. Few physicians or dentists today will deny that focal infections of stomatological origin are responsible for systemic disease. Mayo[2] maintains that 87 percent of all deaths and sickness are caused by acute or chronic infections (those bacterially caused). Price[3] reports that about 90 percent of the cases of nonspecific infective arthritis are due to focal infection of dental origin.

There is sufficient clinical data, both from medical and dental sources, to warrant the conclusion that diseases of the mouth are a serious menace to health as are the diseases of the gastrointestinal tract, the eye, the ear or any other organ of the human body.

On the other hand, we can also show that systemic ills actually serve as causative factors of stomatological pathology. Osborne[4] shows that there exists a relationship between the normal function of the endocrine glands and the normal development of the jaws and teeth. He further points out the danger to health which results from the vicious cycle, as a result of the ill effect of mouth infection on the health of the endocrine glands and improper functioning of the endocrines, inaugurating mouth disorders. Wallace[5] has shown that improper nutrition and food selection are responsible for pyorrhea and tooth decay. Campbell[6] has shown that the lack of proper attention to mouth conditions is responsible for ill-health among the people in England.

The studies in the United States by McCollum, Howe and others have brought to the foreground the part dietetics plays in stomatological hygiene. We see then the problem of prevention of mouth infection as well as the maintenance of mouth hygiene belongs to the same category as other medical problems. One can hardly conceive of treating diseases of any part of the human body, other than by the methods approved by scientific medicine. Methods, schools, technics which do not fall within the realm of medical knowledge are usually classed under the heading of "quackery", as is the case with chiropractic, christian science, Abrams' electronic method and others.

Dentistry and Medicine

This is not the case with dental procedures, at least not so in some quarters. The medical aspects of dental practice are based upon medical science. Dental pathology is based upon the principles of general pathology. Bacteriology of the mouth is based on general bacteriology. The anatomy

of the head is studied as a part of general human anatomy. The question then arises, why are dentists not trained as medical men since we recognize their treatment to be essentially of a medical character? How can we explain the fact that the medical profession has not taken cognizance of this truth? The answer is to be found in the traditional status of dentistry in the United States as an independent profession, which is no more related to medicine than is the legal or the theological professions. Hence, stomatology has received no attention from the medical authorities.

With the understanding, however, that stomatology is that branch of medical knowledge which deals with the mouth, as ophthalmology is that branch of medical science which deals with the eye, we can readily see the important place stomatology should occupy among the specialties of medicine. To consider this phase of medical science and practice from the standpoint of the autonomists, who hold that dentistry is independent of medicine and is not a branch of medicine, is dangerous to the progress of medicine, stomatology and public health. Asgis has pointed out the menace to medical science and public welfare, that will result if dentistry continues to refuse to become a branch and specialty of medicine.

Because of the error on the part of the faculty of the University of Maryland, in 1839, in failing to afford a place to the systematic teaching of dentistry as part of the medical curriculum, dentistry in the United States started on its independent career. But the founders of American dentistry did not intend that dentistry should degenerate into a refined mechanical trade. On the contrary, their aims and aspirations were to steer along medical lines and to place our profession on a level, equal to other medical specialties. It was the medical knowledge that the dental mechanics lacked which was to be added to the dental training of that time. But because of the establishment of a distinct degree, it was traditionally necessary to maintain the independence of dentistry for fear of its breaking down. And so we find the dental leaders fostering the spirit of autonomy, not only so far as professional organization is concerned but in its literature also.

Dentistry or Stomatology

But dental leaders have forgotten that the progress made by dentistry is due not only to its mechanical achievements but also to its having taken from medical science all that pertains to the medical aspects of dentistry. Dentistry must, therefore, give up its traditional position as an independent profession and must readjust its curriculum and point of view, and consider itself as a part of medicine—that is a specialty of medicine—and its practitioners must assume the same dignified position as other medical specialists by becoming stomatologists.

It is to the medical profession that we appeal for cooperation and assistance in carrying out our proposed plans, which aim to bring about the transition of dentistry to stomatology. The medical qualification for the practice of the healing art has served as a standard for regulation of our school curriculum and legal qualification for practice. The same standard, the same degree (the M.D.), the same supervision by the medical authorities, we ask for the progress of our profession. It is, therefore, up to the medical men in the United States, either as individuals or as groups, to help in every way the furthering of the American stomatological movement, which aims to establish stomatology on a plane of service to the public such as only scientific medicine can give.

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Cardiac Diseases

By CURRAN POPE, M.D., Louisville, Ky.

THERE is no single definite shape to the heart. Textbooks usually are not so clear and definite on this point as they should be. The size, shape, and position of the heart is determined by the physical build or habitus of the person. Habitus may be divided into four kinds:

1.—Hypersthenic;

2.—Sthenic;

3.—Hyposthenic;

4.—Asthenic.

This is the classification followed by Mills and by Mills and Soper, and it is decidedly the best for general use. The heart should be measured while the patient is standing. Each type has its own peculiar and particular cardiac shape. This is equally true of the stomach and intestines. Thus we see that physical build oftentimes determines heart, stomach and colonic shapes and positions.

The diaphragm influences the position of the heart. A diaphragm that is thick, heavy, high, and dome-shaped is usually present in the sthenic and hypersthenic person and assists in maintaining the position and shape of the heart which is:

1.—Most nearly "textbook" in shape;

2.—A heart that is short, thick, and lies at an angle more likely to give the normal location of the apex beat and points at which valvular sounds are usually tabulated by the textbook.

Thin, low diaphragms are present in the hyposthenic and asthenic, and result in a more or less typical shape of the heart. The length of the thorax, and the lack of the support of the diaphragm produces in the hyposthenic subject a longer, more slender heart, more nearly approaching the midline. The shape of the heart in these patients moves the apex to the right and tends to lower or move nearer to the center the valvular sounds.

In the asthenic, we find the long, slender, saculated or centralized heart occupying the center of the thorax and more nearly under the sternum, with the apex moved well over to the right, and the sound points more or less variable.

Influence of Build on Heart Sounds

The influence of habitus may or may not affect the sounds of the heart, granted that sounds, in any case, are not lessened by fat or by large breasts, too large and too heavy to be pushed aside. We may say, tentatively, that in sthenic and hypersthenic cases the heart sounds are more apt to be:

1.—Clearer and more distinct;

2.—More nearly our conception of normal sounds;

3.—Located more nearly at the textbook areas;

4.—Margins more easily percussed;

5.—The pulse, slow or slower, fuller and rounder.

We may say that in the asthenic and hyposthenic case the heart sounds are apt to be:

1.—Weaker and more indistinct;

2.—More likely to be muffled;

3.—Less likely to be at textbook areas;

4.—Margins less readily percussed, owing to influence of the sternum;

5.—Pulse rapid, small, and weak.

We find in the tall, thin individual the heart is apt to be more rapid and the pulse more apt to be small and weak. These are very important preliminaries to settling the question as to what you are going to do in the treatment of a case. It is very important also to determine by sounds whether the endocardium is involved or not. This we can not, of course, show with our fluoroscope, but we can tell by sounds, heard with the stethoscope, whether we have to deal with a murmur of pericarditis, or whether we have a murmur that is endocardial in origin. At the same time we try to determine the question of the condition of the heart muscle.

Body Types and Work

Occupations have a different effect upon these types of people. The shrewd, careful, thoughtful, scientific employer of labor should not employ a man who is tall and slender, has thin hands and long fingers, to do heavy work. Before the day was over, you would find that he had been unable to do the work that the sthenic individual has done—the one who is short and thick, who has a broad, heavy hand, and whose compactness and cardiac apparatus enable him to bear the brunt of heavy physical labor.

There is no question that inadaptability of individuals to their work brings about a good many cardiac lesions. Some day when medicine will be engaged in the process of selecting suitable occupations for young people, it will be found that men and women

who attempt to do heavy work and who have neither the physical frame, the muscular build, the abdominal wall nor the cardiac apparatus will not be put to doing the heavy labor of the world. They are the people that should, if capable, do the defter and lighter work, finding occupations in those things that do not tax their muscular frames.

I am satisfied that a great many men and nearly all women of this hypo or asthenic type suffer from a displacement of their abdominal viscera, and that any one so suffering is more likely to have disturbances of the heart.

When we find that people attempt to do those things they can not do, and frequently when doctors attempt to do things that they are temperamentally and physically unfitted to do, there is only one result, and that is failure.

There are some men who are cut out for certain kinds of work in medicine. For them to get out of that work is like pulling the fish on to dry land, or putting the dry land animals under the water. I have advised people to change their occupations as a therapeutic procedure, because of the fact that their physical make-up and their cardiac apparatus would not stand up under what they were doing.

Diagnosis

In the diagnosis of cardiac lesions we can not, in my opinion, get along without the x-ray. We make a fluoroscopic tracing of the heart of every patient that is seen. In this way we have an accurate record of the actual shape, location and size; note the movement and activity of the heart; and always examine the heart in the standing position.

The position assumed should be erect with the shoulders slightly drooped, the toes turned out, the heels slightly separated and the patient relaxed. The tendency of individuals, when they are undergoing an examination, is to try to put their best foot forward and to stand as nearly as possible like soldiers, when, in reality, their normal position is a slouch. We must watch and see that they are relaxed and in their normal position.

Personally, I think every case we treat should have a very careful examination made of the arch of the aorta. Conditions that are sometimes called cardiac, are not cardiac in any sense of the word, but are due to disturbances and enlargements of this great blood vessel. Oftentimes we will find an aortectasia, the diameter of the aorta being greatly increased, and in this way we will be called upon to treat not directly the heart itself so much as to treat the aorta, and in this instance we would, of course, change entirely the location and position of any applicators or electrodes that we might put upon the surface of the patient's body.

If you wish to increase your power of percussion, you can do so by a very simple procedure. Take an ordinary celluloid thimble. Fill the thimble one-third full of very fine bird shot—the finest you can get. Pour some bees-wax into the thimble and press your finger into it so that it molds naturally. Notch the top of the thimble, which will mark it for the nail side, and when you use this you will notice an increase in your capacity for percussion.

Treatment

Now as to the therapeutic treatment of diseases of the heart. We have examined the patient, made our diagnosis, and if we have not done this we should not proceed with the treatment. The treatment is the logical sequence of the diagnosis of conditions.

We have learned from the x-ray, then, first, the position of the heart; second, its size; third, its shape; fourth, its rhythm; fifth, its relation to surrounding viscera; its great vessels, including the aorta, differentiating aortic lesions as compared to cardiac lesions, or showing their association. We have learned the position of the diaphragm, the arch of its dome, its movement and the clearness of its angles, and we have further learned of any pulmonary conditions likely to influence or have a bearing upon the heart itself.

There is no treatment for "cardiac disease." The heart is subject to a large number of diseases, and we must treat the condition that we have diagnosed. Let us, for example, say that we are dealing with a case of incipient myocarditis, a condition for which I have coined the name of "cardiomyasthenia," or beginning weakening of the heart muscles. Of course, we are going to remove all possible foci of infection and improve all concomitant conditions before we center upon the treatment of this lesion.

The x-ray itself, when used in small doses, filtered thoroughly, is a valuable agent in the treatment of cardiac disease. By means of the x-ray, we can ionize the whole chest; we can improve the circulation; we can certainly lessen the infection; and, if there

is any commencing sclerotic tissue—those fine strands of fibrous tissue that are beginning in the heart muscle—it will help to get rid of them.

Diathermy

Diathermy is of wonderful value in heart lesions, and here the knowlege of just where to put your electrode is of the utmost value. If you are dealing with the saculated heart and a weak ventricle in that heart, you are going to have to put on an electrode to suit the size of that heart, and you are to put it over the exact spot on the chest where the left ventricle is, and you are to limit the size of your anterior electrode on the chest to the size of the heart.

You have turned your patient and viewed him fluoroscopically in the lateral position, and you know approximately the depth of the heart, so that you can, in a rough way, calculate by the size of your electrode where the focus of the heat will be greatest, or should be greatest, that is in the chambers of the heart. In other words, one should aim for the crossing of the oscillations to be in the center of the heart or in the chambers of the heart itself. The idea of simply putting an electrode just inside the left nipple will not do for the scientific physician, and it is just that kind of work that has brought this kind of treatment into disrepute, and it is just those things that doctors will not take the trouble to do. Then they wonder why A gets such marvelous results when he does something and B can't get them.

Concussion

Another very valuable adjunct is concussion of the seventh cervical vertebra and on either side of it.

Now, gentlemen, I said *concussion.* I did not say, "Use a vibrator." A vibrator will give you a diffuse vibration that will do harm, because it will spread lower down from the seventh cervical and tend to produce dilatation rather than a contraction of the heart muscles, which you would strive to accomplish by concussion.

A concussor should deliver a blow just like the blow of a trip hammer or an air hammer and should strike at right angles, fair and square and at the rate of about 80 to 120 per minute.

I have seen men give this treatment and continue it for two or three minutes, and then wonder why the patient was so short of breath and why they couldn't get results.

Concussion should be employed for very brief periods, a quarter to half a minute—with a rest between, and so on until you have given from one minute to two minutes of actual concussion.

The combination of x-ray, concussion and diathermy will work wonders with a heart that has no valvular lesion. It will increase the muscular power. It will increase the volume of the circulation. Should you have a valvular heart lesion or a very bad heart, give digitalis, which combined with physical therapy will oftentimes bring about remarkable results, when leaving off either would not get the results.

This is true not only of digitalis, but of numbers of drugs. I have written about this time and time again, and it is a great mistake to allow oneself to be narrow. You want results. You are physician. You have made a good diagnosis. Combine all things therapeutic. You will get better results.

Therefore, I say to you that in the management of a cardiac case the use of medicinal means, of physical measures, and the mixture of medical acumen, sense and judgment will give you success when many a time you would otherwise fail.

IF THE service of a plumber tinkering around a broken water pipe in a home is worth $4 an hour, how much is the service of a physician, ministering to a broken body, worth?—Reed & Carnrick.

Butyn As A Local Anesthetic in Routine Practice

Results of Three Years' Experience

By ALBERT C. CARLTON, M.D., San Francisco

Lieutenant Colonel, Med. Res. Corps, U. S. A.; formerly Chief of the Eye, Ear, Nose and Throat Service, Letterman General Hospital, Presidio of San Francisco.

THOSE who specialize in the diseases of the eye, ear, nose and throat recognize the continuous need of reliable local anesthesia, both topically and hypodermically, in their routine practice. One that would be dependable for all purposes, combining efficiency and safety and one that would replace the use of cocaine, is indeed a welcome addition to the surgeon's armamentarium.

With the advent of cocaine came a new era in the surgery of the special sense organs, and until recently this drug remained the most generally accepted local anesthetic, fulfilling the requirements of routine use.

The restrictions imposed by the Harrison Narcotic Act, however, awakened the majority of those using cocaine freely in their practice to the dangers of habit formation and toxicity. Even prior thereto, the profession was alert for any new remedy that would combine all the good qualities of cocaine and eliminate the undesirable ones.

Various remedies that were reported to have these properties have been tried and found wanting in efficiency and safety, and, except for the acceptance of novocaine and procaine for hypodermic use, cocaine has reigned supreme until the introduction to the profession of the new anesthetic called butyn.

Butyn is a crystalline, synthetic compound, manufactured from coal-tar, soluble in its own weight of water. Chemically it is para-aminobenzoyl gamma di-n-butyl-amino-propanol sulphate. No narcotic blank is required to obtain it.

Although presented to the profession about five years ago, Bulson,[1] in February, 1922, first called attention to its use in operative work on the eye, ear, nose and throat. Shortly thereafter, it attracted my attention, and butyn gradually found its way into my daily practice. Trying it in varying strengths for similar conditions on different individuals, the conclusion was arrived at that a worthy successor to cocaine had at last been presented to the profession.

Since 1923, the use of cocaine in my practice has been entirely abandoned, and butyn has been in continuous use in its stead. As the result of using this drug for more than three years, it is my duty to note, for the benefit of others, the advantages over cocaine that it has demonstrated by actual experience.

First: Anesthesia produced by butyn is much more rapid and dependable. In ¼-percent solution, instilled in the eye, it acts in approximately 30 seconds, uniformly, in all cases where irritation exists. It does not dilate the pupil as does cocaine, nor dry the corneal epithelium, both factors being readily recognizable as distinctly advantageous over cocaine. A foreign body can be removed from the surface of the cornea immediately upon the instillation of two drops of a ½-percent solution of butyn.

For deeper anesthesia of the eye, several instillations of a 2-percent solution of butyn have been used. In no instance has any toxic effect been noted, by the instillation of a 2-percent solution of butyn, in more than three thousand cases such as is occasionally manifested after the instillation of 2-percent solutions of cocaine. Butyn acts on edematous, inflamed mucous membranes, where cocaine fails to be absorbed, therefore making it more dependable in such cases.

In nasal work, for examination purposes, passing of applicators, eustachian catheters, etc., a solution of ½-percent butyn with epinephrin is routine, acting instantly on a single application; whereas cocaine necessitates a wait of from five to ten minutes to produce the same results.

A single application of the same strength will instantly allay the irritation of the pharnyx and larynx in spasmodic and hypersensitive cases, allowing examination with the mirror quickly and easily, with a freedom from disagreeable after-taste, such as is produced by cocaine. Not a single case of toxic absorption has been noted from its use in ½-percent strength, in routine work in the nose and throat. It has been used liberally in all cases requiring it.

Second: As an anesthetic, in comparative strengths, butyn is far more potent than cocaine, and as such can be used in lesser strengths with greater safety. From my observation, it is apparent that a ½-percent solution of butyn, especially when combined with epinephrin, is as effective, for anesthesia, as a 5-percent solution of cocaine, for office routine.

The anesthesia from butyn is less superficial than that of cocaine, penetrating beneath the surface, when topically applied. Beside being instantaneous in action, it has a prolonged effect; its duration has been noted as long as five hours.

My sole purpose in observing the action of butyn in daily practice has been to determine its fitness for such use as regards efficiency and safety and the smallest percentage of strength that would fulfill that result. These determinations have been arrived at in strictly clinical manner, and are now the established procedure in my practice.

Owing to the fact that butyn does not dilate the pupils nor cause any change in the circulation, a ¼-percent solution may be added to any non-saline collyrium, with very comforting results in all local irritations and inflammations.

The use of ½-percent solutions of butyn with epinephrin for the removal of foreign bodies susperficially imbedded, and of a 2-percent solution of butyn for deeper operative procedures, is equivalent to a 10-percent solution of cocaine in anesthetic strength, with the added advantage of prolonged effect so desirable postoperatively.

In throat and nasal examinations, a preliminary application of a ½-percent solution of butyn facilitates speedy treatment, as it acts instantaneously, and no waiting is required before proceeding with any contemplated precedure.

For the removal of tonsils, or where infiltration anesthesia of the tissues is employed, after a preliminary topical application of the usual ½-percent solution of butyn, approximately 2 cc. of a ¼ of 1-percent solution for each tonsil area makes a quick and safe anesthesia. The anesthesia is maintained for at least five hours postoperatively, and in some instances as long as eight hours, adding materially to the comfort of the patient. In comparison, neither cocaine nor novocaine has the prolonged effect of butyn, which also does not shrink the tissues prior to operation, thus allowing the operator to view the field of operation as it was, prior to being anesthetized.

A pledget of cotton, saturated with a 2-percent solution of butyn, inserted in the aural canal is very comforting in external otitis, and with a like solution applied to the tympanum, where a paracentesis is indicated, sufficient anesthesia is produced to proceed surgically without delay.

For intranasal surgery, turbinectomies, submucous resections, sinus explorations, etc., a 2-percent solution of butyn is ample for all occasions, the number of applications and the amount varying with the tolerance of the individual. When left in contact, on cotton, it readily penetrates the deeper tissues. In no case is any toxic absorption noted or any faintness traceable to the anesthetic, as so frequently occurs with the use of cocaine, although butyn has been used liberally in this type of work.

In summing up the advantages of butyn as a routine anesthetic, in comparison with cocaine and novocaine, in the course of three years' observation, not a single case of susceptibility to its toxicity came to my attention, nor a single evidence of idiosyncrasy.

Primarily, butyn, being more powerful (conceding equal toxicity with cocaine in equivalent strengths), can be used in greater dilutions with equal potency. My estimate of its comparative strength, purely from clinical observation, is that it is approximately five times more potent than cocaine, therefore it can be used in 1/5 the strength of cocaine, with the same anesthetic effect with 1/5 the toxicity. In all cases where previously a 2-percent cocaine solution was used, ½-percent solutions of butyn have replaced it, and also in many instances where a 5-percent solution of cocaine was formerly used, such as in the nasal cavity.

Its speedy action is a distinct advantage as a time saver in office practice, the rapidity with which butyn "takes hold" being remarkable.

Solutions of butyn keep well, no fungus growths ever being noted, and it loses none of its strength by standing, unexposed, it being apparently antiseptic per se. It sterilizes well, and stands boiling without loss of efficiency.

Finally, no narcotic blank is required to obtain butyn and, so far, I have not found a single evidence of anyone appearing desirous of using this drug for its general effect, as happens frequently with cocaine.

In my practice, butyn has entirely replaced cocaine and novocaine, except that cocaine is added in combination with homatropin, for enhancing the mydriatic qualities of that drug; otherwise, no cocaine has been used for the past three years.

No chlorides need or should be used in the preparation of solutions of butyn, nor does it need any assstance of any other local anesthetic.

177 Post St.

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Quinine Treatment of Lobar Pneumonia

By JAMES E. FISHER, M.D., Memphis, Tenn.

ACUTE lobar pneumonia is responsible for over one million deaths each year in civilized countries. In 1923, in the United States alone, it was responsible for 105,680 deaths. This mortality is strikingly uniform from year to year and from decade to decade, an analysis of death rates from good general hospitals in England, France, Germany, Switzerland and the U. S. showing an average case mortality of from 25 to 35 percent.

The success or failure of any treatment for lobar pneumonia rests on but one thing, and that is, whether the patient recovers or perishes during the attack, as all pathologists agree that the lungs of an individual who has had the disease and recovered are as good as they were before he had pneumonia.

Probably more remedies have been tried and found wanting in pneumonia than in any other disease and the failure of the different measures advocated is apparent from a glance at the mortality tables. Thus, in the last year, Vaux[1] reported that, of 4503 cases of pneumonia in Pittsburgh, Pa., 1860 died, or a percentage mortality of 41 resulted.

Use of Optochin

Several years ago Morgenroth[2] and his coworkers showed that quinine, and especially ethylhydrocuprein, was a specific against the pneumococcus, both in the test tube and in the body. This has since been confirmed by Kolmer, Heist, Brown, Cohen and others.

Acting on these researches, Moore and Chesney,[3] of the Rockefeller Institute, treated 787 cases of lobar pneumonia, with 102 deaths, or a percentage mortality of 12.96. They report that toxic symptoms, such as tinnitus, deafness, amblycpia or amaurosis, were observed but were usually transient. Retinitis, however, may be a complication and result in more or less permanent impairment of vision. This report is encouraging from the standpoint of lowering the mortality and especially so in view of the fact that Moore and Chesney used the old optochin hydrochloride which was very rapidly absorbed. A new optochin has lately appeared on the market which, it is claimed, has all the advantages of the old product, but is a base and is not absorbed so rapidly, is administered in milk and is claimed to be devoid of toxic action. Experiments are now being carried out in a New York hospital which, so far, have been entirely free from all toxic symptoms. The results of this clinical test have not yet been published and will be awaited with interest, as optochin has been shown to be a specific against the pneumococcus to a stronger degree than any of the other agents now in use.

The treatment of pneumonia by quinine is old, and was recommended by Sir Dominick Corrigan in the first third of the 19th century. Jurgensen,[4] in 1875, advised massive doses, (77 grains of quinine sulphate to a dose, in an adult, and 15 grains to a child under one year) and stated that, in 30 years, he had never seen any harm result from these large doses but, on the contrary, had reduced his mortality to around 5 percent.

Galbraith,[5] Poole,[6] Gustetter[7] and Moodie[8] all report like favorable results from 40- to 60- grain doses of quinine sulphate, at one dose, and claim to have reduced their mortality from as high as 75 percent to 2 percent. These are old reports of 1905 and 1906 but are interesting and serve to show that quinine is not new in pneumonia and also that, in the past, decidedly good clinical results have attended its use. It might be well to add that none of these authors report any cinchonism or other untoward effects from these massive doses.

Recently, Nicolaysen[9] treated 99 cases of lobar pneumonia with intramuscular injections of Aufrecht's solution in the General Hospital at Christiana. This solution consists of 7½ grains quinine hydrochloride, 4 grains urethane and 5 cc. distilled water. His mortality was 9 percent (approximately). At the same hospital, and at the same time, two other medical departments which treated the same class of lobar pneumonia patients *without* the quinine injections, treating 220 cases, had a mortality of 23 percent. This is a striking contrast and should convince even the most skeptical of the efficacy of quinine against the pneumococcus.

Previous to using quinine myself in pneumonia I was in the habit of treating the disease expectantly, using such drugs as digitalis, strychnine, camphor, ammonium chloride, and morphine (rarely, in those cases attended with severe pain). My results were not satisfactory and my mortality under this régime was approximately 25 percent.

Quinine and Urea Hydrochloride

During the last few years I have been in the habit of using quinine and urea hydrochloride by intramuscular injection in my cases of lobar pneumonia. I claim no originality for the method. With this treatment I have had better results than with previous expectant treatment.

When the patient is first seen he is, if an adult, given 15 grains of quinine and urea hydrochloride by intramuscular injection in the buttocks. The injection is repeated the next day but the dosage is dropped to 7½ grains and is then repeated on alternate days, not more than four injections, as a rule, being necessary. In some few cases, 3¾ grains was injected as often as every four hours until toxic symptoms disappeared.

The drug showed marked effect in lowering the respiratory rate, pulse and temperature and in relieving the cough. No sudden or sharp drops of temperature were, however, noted, the temperature falling by lysis instead of by crisis.

This drug is not used to reduce temperature but to kill the bacteria, to destroy or neutralize the bacterial and tissue poisons and to sustain the circulation.

I supplement the treatment with tincture of digitalis, 15 minims four times in 24 hours.

Crile advocates the use of quinine and urea hydrochloride as a local injection previous to incision in major operations and has shown conclusively that it prevents shock. The pneumonia patient is decidedly shocked and I attribute the success of this treatment partly to this action of the drug, namely, its efficacy in preventing shock, but more so to its specific action against the pneumococcus. I have used this treatment in 60 cases, with 55 recoveries and 5 deaths, or a percentage mortality of 8.3 percent.

In conclusion, no toxic symptoms were observed following the drug; no cinchonism, deafness, amblyopia, amaurosis, retinitis or other untoward results were noted and no deaths could be attributed to its use.

The ages of the patients treated ranged from 12 to 80 years. The average age of the patients treated was 27.6 years. The drug's effectiveness was less marked in those above 60 years, the mortality, in such cases, being, approximately, 25 percent.

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The Study and Therapeutic Action of Certain Little-Known Nerve Functions

By WALTER M. COLEMAN, A.B., F.P.S.L., Suva, Fiji

[*Editorial Comment.—Walter Moore Coleman was born in* 1863. *He received his A. B. degree from Washington and Lee University, Virginia in* 1889, *after which he studied in Europe. He was professor of biology at Sam Houston Normal Institute, Texas, from* 1890 *to* 1908, *and later did research work in Europe for two years. The last years of his life were spent in the South Sea Islands, where he carried out numerous interesting investigations among the natives. He died at Suva, Fiji, on September* 20, 1925, *shortly after writing this paper.*

If Prof. Coleman's ideas are wholly fantastic, no harm can be done, in any case, by testing them, for they are harmless and their attempted use will waste little time. If, on the other hand, there is merit in these suggestions, they should prove to be of great value

The details of the test mentioned by Prof. Coleman are given on page 237 *of* CLINICAL MEDICINE *for April,* 1920. *Another interesting article of his was in the May,* 1917, *number, on page* 353.—ED.]

BEING in critical health and advanced in years, at this time living on a remote South Sea island (Kandavu, south of Fiji), I deem it my duty to set down, in a few words, the final results of twenty years' investigation of the nervous system. I have followed the search in peace and in war and sought for clues among savage and primitive, as well as among civilized, peoples. I believe that, within the past month, I have reached results of unexpected definiteness and completeness, but of a seemingly improbable nature. It is hoped that incredulity and scorn—such as they would have awakened in me a few years ago—will not prevent adequate testing of the results at the hands of others by the simple methods given.

The Paired Pulses

I have studied the paired pulses (for example, the radial, the temporal, the carotid, the veterbral pairs) by means of thousands of observations of numbers of individuals, normal and abnormal.

In the normal person, I have found that the right and left pulses are steadily equal, in intent mood; or they swing equally between right and left at each heart beat (in easy-going mood); or that the pulse on one side remains stronger for some seconds or minutes (according to the task), before the shift occurs by which the size of the pulses, along with the blood supply to each half brain, is reversed.

In the abnormal person, the behavior of the paired pulses is quite different. An individual with a sick headache, nervous headache, or, indeed, almost any kind of a headache, will have a full, persistent pulse in one temple and a scarcely perceptible pulse in the other. In an individual with a hysteric seizure, the pulse will be absent from one temple so long as the fit lasts, and the attack itself is probably to be attributed to starvation of the nerve centers in one-half of the brain, which receives its blood supply via the carotid artery on that side. In a fever, the pulse on one side—for instance, the right radial and ulnar—is tense and small, while the pulse in the other wrist is fuller.

One who flies into a violent fit of anger breathes compressively—that is, with the chief muscular effort to compress the lungs and send out the air—this brings about an expansion of the blood vessel supplying the right hand's side of the brain, whilst the vessels supplying the brain-half that controls the left hand become quite small. But present circumstances will not permit me to present that extensive part of the research dealing with the physiology of the emotions.

A "spiritual medium," while in the trance state, also has this total inequality of paired pulses, so far as my studies go. But this part of my studies will also be omitted, as well as an assemblage of facts and experiments which go to show that, in cases of "divided personality," the more youthful, childish personality functions in the left hand's half-brain, with greater muscular tension on the left side, and the right carotid and left vetebral and radial pulses predominant over their mates. If it remains possible to me, I shall go into this more fully at another time. At the conclusion of my paper on the "Biophysics of Personality" (1920, Cambridge), I have mentioned some of my general results on this subject.

Panoramic After-Images

My greatest help in comparing functions on the right and left has been my method,

worked out from a suggestion by Sir J. C. Bose, of evoking panoramic after-images (See, *J. of Physiol.*, LIII.). Its fitness for use as a test of psychogenic states I have discussed in CLINICAL MEDICINE, April, 1920. For example, Dr. Crowe, of Harrogate, and Professor Strangeways settled a contention as to whether hysteria is an important factor in rheumatism by the use of this test. Hysteria was found to play an important part in one-third of the cases. Every case classed as hysteric by the test gave other signs of hysteria.

It is also used as a test for fatigue. In fresh, normal subjects, the play of the after-images is *Right, Left, Both*, or merely *Both;* in slight fatigue, there are *Right, Left* images, alternately, but not *Both* at once; in great fatigue, which thus resembles hysteria, there may be a *Right* image throughout or a *Left* image throughout, but no alternation; for the extremely fatigued, for the aged, and for the very hysterical, and many other of the insane, there is no panoramic after-image at all.

I find the South Sea Islanders usually get right, left, and both images, always with alternations. This shows their blood is less highly oxygenated than that of many of the white race, for it is not infrequent for whites to get both images constant. I found an example of this in a half-caste, but no instance in a pure Samoan, Fijian, Tongan, Solomon Islander, or mixture of these races.

Usually the shift in after-images occurs just as there is a shift in the blood-flow to right or left, but sometimes changes in the blood-flow occur without change in the after-images.

I have used these two methods in the part of my work that concerns balance and want of balance between right and left; the one for finding the present state, the other for finding the more habitual condition in this respect.

Effect of Touch Upon the Nerve Reactions

One day, while making the combined test with a small Fijian boy, I held my forefingers on his temple pulses while he called out for the changes in the after-images the words which meant right, left, both, none. Now, for Fijians, images remain about three times as long as for whites of the same age. For Fijians, the images usually remain from six to twenty seconds. But, in this boy, often they remained for 30 seconds, and their play still continued when I desisted after half an hour. I was unable to explain the phenomenon.

Soon after this, I was testing a war-shocked New Zealander. He was neurotic, and saw only the right after-image. The fourth day I tested him I happened to hold his wrists to study his pulses just before he held the slitted card to the sky; he next reported both images constant. I tested these subjects at other times without touching them, and these results did not reappear. There seems to be only one conclusion: The proximity of my hands affected the result, and increased the energy of the retina in both cases, so that the boy's image lasted for half an hour, instead of the usual few minutes; while the soldier got images on both sides, whereas his nerve strength had never been equal to more than one before; yet, even in these times of freqeunt discovery of new forms of radiant energy, it is difficult to ask Science to reverse its well-considered and carefully-rendered verdict against animal magnetism, mesmerism, etc., and believe the human body capable of giving off energy other than motion and heat.

I have carried out another series of experiments which seems to confirm both the externalizing and the reception of an unexplored form of energy, be it nerve force, electricity, or some intermediate and unknown form. I do not now refer to my study of "Telergy" (printed in London, 1917), but to the voluntary equalizing for others, of the unbalanced right and left pulses in headaches, fever, hysteria etc.

Technic of Equalizing the Circulation

When I find a sufferer with unbalanced circulation of this kind, I grasp his palms or wrists loosely, or place my forefingers upon a radial or temporal pulse and its mate. On the side with a small pulse or none, I feel for the pulse, letting the fingers on that side become entirely sensory and receptive. At the same time I am unconscious of my other hand; but, if my thought wandered to it, I should give a motor executive thought to it. I suppose I do this under the unproven supposition that motor thinking is positive and adds to the tension of the patient's blood-vessels, while sensory thinking is negative and, instead of stimulating, will relax the vessels and permit of their opening. As the vessels equalize in size, the pain or ache or fit disappears. The method seems to work absolutely no drain or strain on the operator.

Looking over old notes of studies in London where I began the study of the in-

equality of pulses, I see such statements as "the pulses become equal, seemingly under my manipulations;" or, "the hysterical subject said she was now feeling her best." But I found no method of quick relief, for I was then experimenting on the curative effects of cultivating rhythm and harmonic movements, and changing faulty habits of posture, respiration, etc. The slower nerve changes of the calm, primitive races in the South Seas have facilitated the reaching of the present unlooked-for conclusion.

Illustrative Cases

I shall now give two examples of the use of the method: One day—it was the king's last birthday—I found a teacher of a native Fijian school in bed with a terrible headache, and bemoaning the fact that big preparations were to be made for the day's celebration, which he could not look after. I found the pulses of his right wrist and left temple deficient, indeed not to be felt by the touch. I placed my forefingers on his temples, keeping the finger on the left temple in a receptive condition to feel the left temporal pulse, should it appear. It did so in about ten seconds, and in a few more seconds was as large as its mate. By this time he said the headache was gone. I told him to remain in bed for an hour; but, half an hour afterwards, I found him busy by the earth-oven and pots in which the baking and boiling for the feast was in progress. He ate heartily at the feast, but there was no return of headache.

I found a young half-caste boy in a native *bure*, or grass-hut, in a high fever; face hot, flushed and dry; eyes glazed; pulses almost too fast to count, the right wrist pulse being much larger than the left I did as in the case above, using the radial pulses. The left pulse gradually grew larger. In five minutes his skin was moist and cool and he sat up and called for doughnuts. He was made to lie down, and, although there was still some fever which I did not wish to remove, he slept well, had a slight fever the next day, and none the third day.

The method should be used, not to abolish but to moderate the curative processes of nature. Fever is probably purifying, but it should not be allowed to go dangerously high nor prevent all sleep.

Treating Insomnia

A method of sleeping at will, used by me privately, and taught to friends for many years, is to lie symmetrically on the back with inner border of soles touching; hands loosely clasped over chest, with ends of thumbs touching as in the Buddha attitude; think sensorily of points of contact of right and left, especially of soles and thumbs, and of the mid-line of the body. As soon as dozing begins, turn to the habitual attitude of sleep and go to sleep.

I believe that this method succeeds because it equalizes the nerve force of the two sides and enables them to neutralize each other. Immediately on going to sleep, there starts an immense swing between the blood vessels supplying the brain on the right and left, the pulse on each side being obliterated at alternate beats of heart.

I believe my tests in Dr. Waller's laboratory on controlling the psychogalvanic current confirm my suggestion as to why the method I use in healing by touch is effective. The figure, showing my deflection of the current at will and the explanation of how I did it, is given in my paper, "The Dynamics of Mood and Emotion," (pub. by F. W. Talbot, Cambridge, 1919). Professor Waller said, shortly before his death, that mine was the only instance of the willful control of the electric current of his apparatus, with the exception of the case of a retired, psychic, Polish countess, married and now living in London. I have no psychic powers, so far as I know, but I am ambidextrous, and have cultivated harmony in my body by symmetrizing, rhythmizing, and synchronizing my movements, activities and posture.

Hypotheses

I believe that ambidexterity and rhythmicity are favorable, though not indispensable, factors in the exercise of this power, as the nerve currents must be free, and readily swing from side to side.

It is also my opinion that the nerve force of the nerves with fatty sheaths is not available for such work since it is isolated and confined. But it is probable that the unsheathed nerves—and it is such that make up the vasomotor nervous system—are the ones involved. Being naked, they readily take up and give off their force especially through parts of the skin (soles, palms, and eyes) which lack oil glands.

The best and safest method of cure is to learn how to adapt the body to new conditions, or to return to the old natural ways. For example, the writer can stop seasickness by touch; but he much prefers to cure it by bringing the passenger into subconscious harmony with the motions of the

ship. This is done by watching the horizon, and pressing down with one foot as the ship goes down, and lifting it as the ship rises. This is kept up until it becomes such a bore to the passenger that he relegates it to his subconsciousness.

In the paper last mentioned, a figure is given of my latitudinal body balance, modelled after the longitudinal form of it devised by Mosso. I also give tests showing that thought of the skin sensation in any part of the body causes vasomotor relaxation and expansion; motor thought of the part causes contraction. If transmission of thought or magnetic force between two animal bodies is accepted as possible, this result supports my explanation of the curative phenomena described in this paper.

Chronic Tonsillar Infections In Adults

By HAROLD HAYS, M.D., F.A.C.S., New York City

IN MOST cases, tonsils are removed in childhood, because they cause obstruction. In adults, they are removed mainly to relieve some local infection or some general irritation.

Many more tonsils are removed in adults, today, than formerly. Is there any particular reason for this? Are persons healthier, both mentally and physically, after the tonsils are removed? I can unqualifiedly answer in the affirmative. The reason for the more frequent removal of tonsils is mainly two-fold:—the old-time partial removal left infected stumps; and infections of the tonsils are more prevalent today, or we are able to diagnose such infections more accurately.

An adult patient with tonsillar disease manifests such a condition by having or having had some local inflammation or infection or by having some real systemic trouble for which, no doubt, the tonsils are responsible.

The local infections or inflammations from which a patient may have been suffering are: repeated attacks of tonsillitis; peritonsillar abscess; retrotonsillar abscess; repeated nasal infections; various ear inflammations; etc.

The general symptoms may manifest themselves in one of the various arthritides; general malaise; a chronic irritation of the gastrointestinal tract or kidneys; or eczema.

1. *Repeated attacks of tonsillitis.* Although tonsillitis in itself may not be very serious, the systemic symptoms which may result are often very dangerous. One attack certainly predisposes to another and never is the tonsil free from all infection after such an attack.

I have seen disastrous results following or concomitant with a tonsillitis, as instanced in the following case:

Dr. L. had been playing golf on a rainy day. When he arrived at home, he had a chill and a sore throat. When I saw him the following day, his temperature was 104 degrees, his throat was covered with an exudate and infection showed in the crypts of the tonsils. His entire body was covered with an erythematous rash and, two days following, there was a suppression of urine. There was a question at the time as to whether or not he had scarlet fever. Two days later he died. I do not wish one to feel that all or many cases of tonsillitis are so severe as that, but there is no doubt that a general blood-stream infection may take place at any time.

2. *Peritonsillar abscess.* In spite of the fact that such an abscess is more painful than serious, it is wise to suggest the removal of the tonsils whenever a patient has recovered from the acute throat infection.

The infection in a peritonsillar abscess starts from an infection within the tonsil which works its way into the loose areolar tissue behind the tonsil and finally finds its way toward the upper pole. There is no means of escape because the mouths of the crypts are closed off by inflammation. Evacuation of the abscess is the only cure. One attack of peritonsillar abscess predisposes to another but, what is of more importance, there is often a latent abscess within the tonsil itself which is bound to give trouble sooner or later.

Serious sequelae of peritonsillar abscess are very possible, such as destruction of a great amount of tissue, actual gangrene or noma. I recently saw a patient one week after incision for a peritonsillar abscess. There had been continuous bleeding until the hemoglobin was below 50. The patient was taken to the hospital, the original

abscess cavity evacuated and the diseased tonsillar tissue removed, but she did not entirely recover until she was given a transfusion of blood.

3. *Retrotonsillar abscess.* A condition of this kind is rarely described except under the heading of retropharyngeal abscess in children. I have, however, seen a number of cases of such infection in adults, sometimes after the tonsils have been removed. The patient has many of the symptoms of quinsy, but inspection and palpation of the throat indicate that the infection is either in the posterior pillar or in the adjacent lymphatic tissues of the lateral pharyngeal wall. The infection has a tendency to spread downward into the hypopharynx until it forms a dangerous obstruction to breathing or else may spread inward toward the opposite side until the entire pharyngeal wall forms one boggy mass.

A few years ago, I was called to see such a case. The infection had spread beyond the median line. The pharynx was edematous and extremely painful. Repeated incisions failed to reveal any pus. A tentative diagnosis of either sarcoma or syphilitic infiltration was made. A Wassermann test was negative. A piece of tissue removed failed to show any malignancy. Fortunately, the condition subsided in the course of a week. Conservatism pays in such cases. Repeated irrigations with a hot 1/10,000 permanganate of potash solution will do more good than severe instrumentation.

The etiological factors in the causation of such abscesses are unknown. Many of them are caused by tonsillar infections; others by an infection in the glands at the base of the tonsillar fossa, after the tonsils are removed.

4. *Repeated Nasal Infections.* In the course of the routine examination of the nose and throat, particularly if the patient complains of reinfection, either due to some inflammatory condition of the sinuses or to irritation of the nasal mucosa, one will find tonsillar tissue which may or may not be infected at that time. If the sinuses are draining well or if the inflammation of the nasal mucosa is of slight consequence, it will be wise to consider the tonsils as the original source of infection. No matter what the condition of the septum or how great the hypertrophy over the turbinates; no matter how much disease of the sinuses may be present; the condition will not be cured by intranasal surgery so long as the tonsils are allowed to remain in situ. I cannot stress this point too strongly.

One of the reasons why intranasal surgery has been so severely criticized is because the specialist has not sought out the original source of infection. It has been ably proved that sinus disease in children will clear up, even when it is most severe, in ninety percent of cases, as soon as the tonsils and adenoids are removed. Surely, the same reasoning should hold good in adults. I can recall any number of patients who have had one or more nasal operations performed who never were cured of their troubles until I removed the tonsils.

5. *Ear Inflammations.* These resolve themselves into two clases. One type of case is that in which there is a continual discharge from the ear. The other is the one which presents symptoms of progressive deafness. In both types of cases, no permanent results will be obtained until the tonsils (and perhaps other diseased pathological tissues) have been removed.

The suppurating ear may be due to an actual pathological condition within the middle ear or mastoid process but, in the majority of cases, the condition is aggravated by inflammation in the nasopharynx. The best evidence is found in that type of case which clears up after the eustachian tube is closed off (Yankauer operation). In other words, the feeding ground in the middle ear is kept in a constant state of irritation by the continuous moisture of the mucus from the throat.

In cases of progressive deafness, it is impossible ever to relieve the patient for any length of time while the tonsils are present. I make this statement without reservation because I consider it an absolute necessity to remove the tonsils in all such cases, no matter whether they show evidence of disease or not. My reasons are twofold. In the first place, the tonsils may be diseased and thus cause both local and systemic irritation. In the second place, it has been my experience that such tonsils may become the seat of an infectious process at any time, the result of which will be a permanent decrease in the hearing.

About two years ago, the mother of a patient of mine was being treated by a specialist in another town. I could not see that her hearing had been at all improved. Suddenly she developed a severe tonsillitis. There was very marked diminution in her hearing. I removed her tonsils after the acute infection was over. Fortunately, her

hearing was not irremediably impaired. Since that time, I have been taking care of her ears. Very little treatment has been necessary. The removal of the source of infection did more good than any ear treatment.

Some of the profession have been insistent that the deafness is often caused by systemic infection from diseased tonsils, others feel that the tonsils act as a direct irritant upon the middle ear. It matters not which theory is correct or whether both are correct, but it matters a great deal if one allows the tonsils to remain.

6. *The General Systemic Reaction* from diseased tonsils may be of a great deal of consequence. I should hesitate to enumerate all the diseased conditions for which they are supposed to be responsible. They range from appendicitis to scrofula. However, there is no question that diseased tonsils are the causative agents in many rheumatic manifestations and that they may result in a general devitalized mental and physical condition of the patient. In fact, one seldom advises the removal of tonsils because of any local throat irritation unless it, in itself, is serious; but he often advises their removal when pus can be found in them, regardless of whether the patient has symptoms referable to the throat or not. I have frequently had patients say that they could not understand why their tonsils had to be removed because they had never suffered from any throat trouble. The test is not in the diagnosis but in the improvement which takes place after the tonsils are removed.

A diagnosis of such a possible infection must be made by means other than inspection. Inspection may show a diseased condition but far more will be revealed by palpation and culture of the secretion. First one should palpate for enlargement of the upper cervical glands. If they are at all enlarged, it is *prima facie* evidence that the tonsils should be removed.

Palpation of the tonsils themselves is next in order. The tongue is depressed and, with the flat of the index finger, the anterior pillar is forcibly pressed upon until one expresses material from the superior tonsillar fossa. To my mind infection which can be obtained from the crypts is not of great importance but whatever is expressed from the superior tonsillar fossa is material which lies dormant and is absorbed into the system. If one gets little or no pus from this region it may be advisable to have a culture made. The swab is directed into the fossa above the tonsil. Cultures will often show the presence of virulent sterptococci.

In conclusion, I should like to make one point clear. Although diseased tonsils may be found, by no means should one consider that the patient may not be suffering from infection in some other part of the body which is partially responsible. There may be an infected tooth; it is possible that there is some severe gastrointestinal derangement. In all cases, therefore, too great promises should not be made. The patient should be told that the tonsils are diseased, and all the pros and cons of the matter, and the final responsibility for relief should be placed upon him.

Of course, there are many exceptions to this reasoning but, in the long run, the patient is far more impressed by the honest physician who says, "I believe that your tonsils are causing a great deal of your trouble. I believe that you ought to have them removed. Rather than make any rash promises, I should prefer that you yourself be the final judge as to whether their removal has benefited you. Only the Lord Almighty can make medical promises and live up to them at all times." Such statements to patients make them believe that they are getting honest advice and, fortunately, in the majority of cases, they are markedly improved.

22 West 74th Street.

Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M.D.

[Note: The Seminar is devoted entirely to the practical interests of surgeons. Problems and their discussions are solicited. Contributors must give their names, but whenever desired these will not be published. Questions intended for this department should not exceed fifty words. Address all communications for the Seminar to Dr. G. M. Blech, 108 N. State St., Chicago.]

Appendicitis (Continued)

The Pulse in Acute Appendicitis.—The pulse is one of the most important guides to diagnosis in this disease, and has not been replaced by the development of many instruments of precision. The surgeon's finger on the patient's pulse is useful not only for diagnosis but throughout the course of convalescence.

One must realize that the pulse is not the only criterion of the severity of a given case, but taken in connection with other phenomena — temperature, respiration and facies—it assumes tremendous importance.

The age of the patient is a factor in all estimates of a given stituation, for in young children a pulse is comparatively normal in rate which would be alarming in an adult.

For some reason, many surgeons have come to look upon 120 as the pulse rate representing the line of demarcation between a hopeful and an unfavorable prognosis; in others words, so long as a pulse remains below 120 the patient is said to be seriously sick but with a good prognosis; while a pulse exceeding 120 is a very grave omen. Arbitrary though this may appear to be, there is a good deal of truth in that estimate, provided, of course, we do not rely solely on the pulse. We have seen patients die from surgical infections, though the pulse remained below 120; and, on the other hand, patients with a pulse of 130 and more have made complete though stormy recoveries.

The character of the pulse, too, has decided significance. The full, bounding pulse, not easily compressed, indicates reaction to infection, with a good prognosis; it is the "small" pulse, without tension, that tells a story of a patient being overwhelmed with toxins. If this same pulse becomes intermittent, the picture of threatening disaster is visualized.

Temperature in Acute Appendicitis.—An attack beginning with high temperature and a high pulse rate almost invariably indicates that the appendiceal infection is serious. With such a beginning, one will do well to think of a threatening perforation, due to a gangrenous appendicitis, for in observations taken on approximately 2000 cases, the writer has never seen a case of acute catarrhal appendicitis with a stormy beginning.

On the contrary, a comparatively mild beginning, so far as pulse and temperature are concerned, especially in recurrent appendicitis, may be misleading, as has been already shown by a case report.

What shall we say of a case something like this—undoubtedly an acute attack of appendicitis? The pulse is 118 and the temperature only 99° F. Such a condition indicates great seriousness—a circumstance which will prove of value to us in the estimation of postoperative conditions. We come to formulate the following rule:

A high pulse rate, combined with a high temperature, is never so serious as a high pulse rate with a comparatively low temperature.

Leucocytosis.—No surgeon should operate on any case due to infection without availing himself of repeated leucocyte counts, for, to a certain extent at least, they are as valuable as the pulse and temperature observations.

In the estimation of the leucocyte count it will be recalled that children show normally a somewhat higher white blood cell count than that of adults, which ranges from 6 to 10 thousand per cubic millimeter.

A temporary white blood count exceeding ten thousand per cubic millimeter is designated as "leucocytosis," and is to be interpreted as an expression of the system's reaction to infection.

Leucocytosis, per se, is relatively meaningless and all that has been said in regard to the pulse in acute appendicitis is equally applicable here. Taken in connection with the pulse, temperature and general clinical symptoms, a high leucocyte count assumes significance; but this, too, requires proper interpretation.

If we find a leucocyte count of 18 to 20 thousand a few hours after the beginning of an attack, many interpret this to mean the presence of pus; but we could easily demonstrate its absence at operation, and thus support the significance of a high white blood cell count as an expression of reaction to infection. This is also supported by the following phenomenon: A patient with any abdominal infection runs a high leucocyte count for several days and then a drop to normal is noted. A day or two later the patient gets well—or else dies.

It is easy to see that, in the former event, the return to normal was due to a *cessation* of the infective process; while in the latter the reaction *failed*, because the system became overwhelmed by an intoxication which resulted in death.

(To be continued.)

Discussion and Solution of Surgical Problem No. 1

Recapitulation. — (See February CLIN. MED., p. 113.) A printer, 59 years old, has had a deep ulcer on his right heel which has resisted local treatment. There is a past history of gonorrhea but not of syphilis. He has suffered from "rheumatism," from which mineral baths gave some relief. Wassermann test negative; urine contains 2 percent sugar; but aside from a small, reducible inguinal hernia nothing abnormal can be found. The ulcer is very deep—down to the bone—and has indurated margins. It is not sensitive to touch.

The requirement calls for diagnosis and treatment.

Discussion by Dr. S. E. Crack, Hamilton, Ontario

This looks to me like one of the socalled perforating ulcers of the foot in a man with diabetes. His admission of venereal disease and the pains in the legs makes me think of syphilis, which should never be overlooked in such a case. The negative Wassermann test and neurological findings speak against syphilis.

I would treat the man as a diabetic, put the foot at rest in an elevated position, bathe it daily in hot water and apply a dressing of gauze, covered with a large compress smeared thickly with a bland ointment, such as Lassar's paste. Healing can be looked forward to with confidence if the diabetes responds to a dietetic regime.

Discussion by Dr. Emil C. Junger, Soldier, Iowa

In this problem we have a man about sixty years of age whose urine shows a small amount of sugar; who has suffered from some pains in the legs; who has an ulcer on his heel, due to pressure or other trauma, resulting in a breakdown of the tissues.

This, at first thought, suggests an endarteritis of the obliterating type.

Potassium iodide seems to be indicated, and large doses should be employed to obtain the desired results. Insulin might be useful, on account of the presence of sugar in the urine. The circulation should be stimulated and improved by the administration of glonoin, and sodium cacodylate should be injected, intravenously, for its general tonic effect.

If all this fails we must think of an underlying syphilitic infection, and an effective anti-syphilitic treatment should be given a thorough trial.

Editorial Comment and Solution

A number of letters have come to me expressing inability to arrive at a diagnosis because the data supplied in the problem, as presented, are insufficient.

A valued friend and contributor suggests that the question of a possible trauma has not been touched upon, nor have I supplied a report on the bacteriologic findings of the ulcer or its discharge. The diagnosis of diabetic gangrene would prove a hazardous guess.

These comments are highly interesting not only to me personally, as the author of the problem, but to the readers of the Seminar as well, since they raise the question whether the problem was sufficiently well presented to make a diagnosis possible.

Again I emphasize what I have alluded to last year; that the correct diagnosis is of secondary importance in discussing a given problem and that the *reasoning* of any assumed diagnosis is the only thing that counts.

The character of the ulcer is, in itself, suggestive, but not definite, yet even before the Wassermann test was reported negative, I made the diagnosis. This is not reported as a boast, because the same credit is due Dr. Crack who hit the nail on the head in the very first words of his discussion.

Let us analyze the case. The man's age is of some interest to us, but we are more interested in his profession. He is a printer.

Lead poisoning suggests itself, but if there had been any evidence of it, that would have been stated in the problem as part of the findings on physical examination. We can rule out plumbism.

His past history points to an old gonorrheal infection—forty years ago. The shreds in the urine confirm this, but we can dismiss it as of no etiologic importance in this case, because it comes a little late for metastatic infection. His statement that he never had a primary sore, even if we accept it in good faith, must always be taken with reservations, especially when a urethral discharge has been admitted.

We all, no doubt, have seen disasters follow such a history as this. A patient develops paresis or locomotor ataxia or brain syphilis and the only history that was obtained by physicians at any time preceding the catastrophe amounted to a very slight "dose of clap," years ago, which healed quickly under some injection treatment. Now it is almost too late to do anything. Such a history should have warned every thinking practitioner that the slight discharge may have been due to an intraurethral chancre.

A negative blood Wassermann test is not decisive, though, in the presence of active syphilis, the test should show some reaction.

Finally, the presence of sugar has some significance, to which must be added the character of the ulcer.

Ulcers are tissue defects which develop slowly through trauma (contusions, pressure); interference with the circulation (frostbite); venous stasis (varicose ulcers); systemic infections (syphilis); through lack of control of the nervous system (tabes), resulting in trophoneurotic ulcers; and, finally, malignancies. We see in the problem case the absence of any data which would definitely fit into any of the above groups. The ulcer must be accepted as, in all probability, due to local nervous disturbance, primarily induced by a diabetic neuritis. Accordingly, the treatment suggests itself.

Discussion and Solution of Error No. 1

Recapitulation.—(February CLIN. MED., p. 112.) A frail woman of 23; rather anemic; without any significant previous history; pregnant; has a fissured nipple, for which she is treated with bichloride and phenol solutions. Two weeks after a normal delivery, she develops mastitis in the left and, two days later, also in the right breast. Hot fomentations were applied but there was slight fluctuation and some hard nodules in the left breast; less disturbance in the right. A surgeon condemns this treatment and makes several large incisions in both breasts. The condition has not improved ten days after operation.

The requirement calls for a criticism of the entire management by both the attending obstetrician and the surgeon.

Discussion by General Geo. Acheson, St. Martins, N. B., Canada

The patient is a young woman in her first pregnancy who has had, for some time, a moderate vaginal discharge, which apparently gave rise to no great inconvenience, and so no examination of vulva or vagina had been made previous to labor.

The existence of a purulent or mucopurulent vaginal discharge, in a nulliparous nonvirgin, in all cases means chronic gonorrhea. In the female, gonorrhea may begin so insidiously as to be scarcely noticed by the patient. So, when the medical attendant became aware of the existence of a vaginal discharge, he was at fault in not making an investigation to determine its character, and institute treatment before the termination of gestation.

A few months before delivery, there was noticed a fissured condition of the left nipple, diagnosed as eczema. The resistance of this to treatment and its chronicity would lead one to believe in a pyogenic infection, thus relating it to the possibly gonorrheal vaginitis, and suggesting that this patient had become sensitized to a special toxin causing the cutaneous reaction in the nipple, described as "eczematous," a tendency to which would be favored by her frail, anemic condition. A further mistake then was in trying to treat merely the local lesion in the breast, without searching for and removing the cause, which, I am inclined to think, was to be found in the vaginal discharge.

The puerperal, left mastitis was, no doubt, caused by infection through fissured, excoriated nipple; while the less severe inflammation in the right breast could be accounted for by transference of some cocci from the left to the right nipple by way of the infant's mouth, which found their way through the ducts to the glandular tissue of the breast.

So long as there was no actual formation of pus, the surgeon was not justified in making any incisions, for obvious reasons. Hot fomentations with a strong solution of

magnesium sulphate, after painting the breast with equal parts of extract of belladonna and glycerine, and the free exhibition of calcium sulphide, would, in all probability, have rendered any cutting unnecessary, and a prompt and satisfactory cure might have been effected. Of course, if there was a superficial abscess in the left breast, the pus should have been evacuated through a small incision, and the cavity washed out with chlorazene or some other antiseptic, and, after drainage, allowed to close from the bottom.

Discussion by Dr. E. C. Junger
Soldier, Iowa

The sore nipple in this young woman might mean several things, and I certainly would make the test to include or rule out syphilis. Tuberculosis, too, might be a cause and should be thought of, and this thought would be continued to include Paget's disease, which indicates radium, x-ray or radical surgical treatment.

All in all, the woman has not had the benefit of scientific care.

Discussion by Dr. Isaac E. Crack,
Hamilton, Ont.

The criticism of the family physician in the case concerns his using bichloride of mercury on a sore nipple. The result, according to our general experience, could have been only in increasing irritation. I prefer 5 percent alcohol, followed by a bland ointment (boric acid).

The surgeon showed very poor judgment in the drastic measures he used. He should have incised the fluctuating area in the left breast, explored it freely with the finger to open all pockets of pus and established good drainage. The right breast should have been left alone. The use of hot compresses and bandaging would have effected a cure.

The milk being free from pus, the baby should be put to the breast every four hours. Regulation of the bowels and proper building up for the patient are essential.

Editorial Comment

We have here a simple case of puerperal mastitis, which is seen very often.

The discharge may have been specific, but in the light of the history this is doubtful. Its influence on the mammary infection is highly problematical. The fissured condition of the nipple before delivery opened wide the channels for topical infection, probably of the staphylococcus type.

I am inclined to free the family physician from serious criticism. He saw an eczematous condition and treated it—rather harshly it is admitted—but the result of his poor judgment could hardly be more than an increased dermatitis.

The surgeon saw a mastitis, fluctuating in one and nodular in the other breast. He operated with extensive incisions. In this he was not absolutely wrong, but out of date. We no longer make large incisions, but stab punctures with a very narrow blade, to allow a point or two of exit for the purulent material, relying on artificial hyperemia to force out the pus mechanically and to insure a speedy recovery.

The technic is simple. A large, glass cupping bell, with an attachment for rubber tubing (Bier's) is placed over the breast and the air thinned by a large syringe (a rubber bulb or a simple hydraulic pump, such as can be attached to any faucet).

The breast is immediately drawn into the cup and becomes purple and congested, showing the production of an active and passive hyperemia. Relief from the pains appears within 5 or 10 minutes. The seance may last up to 30 minutes and should be repeated at least once a day. In the case presented I succeeded in bringing about almost normal conditions.

Of course, the general and local care suggested in the discussion can be utilized to excellent advantage.

Problem No. 3

A woman, aged 60, has been rather frail all her life and a sufferer from repeated attacks of arthritis of the knees and hips, which used to disable her for weeks. She has also suffered a good deal from constipation, which occasionally alternated with brief attacks of diarrhea. Otherwise there is nothing noteworthy in her personal or familial history.

For the past four months the patient has suffered from synovitis of the right knee, which caused her considerable pain and prevented her from walking, even after the inflammation had subsided, though there was but little effusion remaining and the knee was not particularly painful to pressure.

Suddenly the patient began to complain of sharp pains in the right lower quadrant of the abdomen, and, on physical examination, a fairly large, round tumor, exquisitely tender to palpation was found. It

(*Concluded on page* 273)

Clinical Notes and Practical Suggestions

The Treatment of Essential Arterial Hypertension*

HYPERTENSION, or high blood pressure, is still believed by many to be synonymous with arteriosclerosis, but such is not the case. It is true that functional and organic changes may coexist in the same patient, but arteriosclerosis does not cause high blood pressure; in fact, it quite possibly may be the other way around.

Hypertension accompanying or due to arteriosclerosis is quite different from the essential variety. The former usually occurs after middle age (usually at about 60 years) and is due to senile changes in the heart and blood vessels. The systolic pressure steadily rises, while the diastolic remains unchanged or grows lower, so that the figure for the pulse pressure is large. This variety is irreparable and the treatment consists in the cardiac regime of old age.

Essential hypertension, on the other hand, usually begins earlier (at about 40 years) and the rise occurs in both the systolic and diastolic pressure, the elevation being more pronounced in the latter. Edema, of cardiac origin, occurs late and the terminal process is that of gradual dilatation and ultimate failure of the heart.

The etiology of essential hypertension is unknown. Cardiac, cerebral or renal disease, in the parents, seems to be a heritable predisposing factor. It now seems probable that the cause lies in the absorption of some unknown toxin of metabolic origin, which causes constriction of the arterioles. The work of Major suggests that this toxin may be, or be allied to, the *guanidin bases*, but we actually *know* very little.

The treatment recommended for these cases seems to have been drawn largely from the imagination of the medical attendant, upon the assumption that the high blood pressure is due to cardiovascular-renal disease, and has chiefly consisted in prescribing a hygienic regimen suitable for the aged or for cases of chronic nephritis. Such treatment is wholly irrational in view of the facts as we know them.

Statistics show that 50,000 persons now die, yearly, in the United States, as a result of circulatory diseases. It is probable that the same percentage of the population has succumbed to this type of diseases in all past time, but we are now taking more blood pressure readings and making more diagnoses.

In cases of essential hypertension most of us take the blood pressure too often and allow the result to upset us and our patients unduly. In perfectly normal persons there are wide variations in the *systolic* pressure on various occasions, and these variations have no more significance in the hypertensive patient than in the well man. The *diastolic* pressure remains nearly constant.

There is no proof whatever that focal infection plays any part in the causation of essential hypertension, and the brutal removal of all teeth, "on suspicion," which has often been practiced, is wholly unjustifiable.

It is unnecessary and very inadvisable to disrupt the life of the patient with essential hypertension. Physical activity need not be restrained unless a true cardiopathy is *also* present. Rest is necessary only during the crises of the disease. Very busy and hard-working people may profitably spend one week-end per month and one week, four times a year, in bed; others do not need even this. When the heart fails is the time to begin treating these patients as cardiopaths.

In like manner, protein and salt starvation are useless in these cases, any results seen following strict limitation of diet being due to the general failure of physical vigor consequent upon *malnutrition*. If the hypertension patient is obese or a very heavy feeder—as is frequently the case—*modera-*

*Abstract of a paper by Dr. Arthur R. Elliott, Chicago, read before the American Congress on Internal Medicine, at Detroit, Mich., February, 23, 1926.

tion is to be earnestly counselled, to bring about a proper physiological balance; but starvation should not be practiced except in severe emergencies, and then under careful observation, to see that the hemoglobin is not reduced below 85 percent. Iodine is a placebo in these cases.

If the habits and diet of *each individual* are carefully studied and thoughtfully adjusted so as to bring about approximate physiological equilibrium, much comfort may frequently be afforded these patients, but, when all is said, the outcome depends upon the individuals' innate powers for meeting the strain of a constantly elevated blood pressure.

G. B. L.

VARYING EFFECT OF POISONS ON ANIMALS

The smallest snail will withstand more strychnine than an adult man. Many of the stronger cardiac poisons have no action whatever on insects. The rabbit can take more morphine than can a man fifty times the animal's weight. Doses of lead, nicotine, etc., sufficient to poison man fatally do not injure the goat. Amygdalin does not affect dogs, but it kills rabbits. The hedgehog takes with apparent enjoyment a dose of cantharides that will kill several persons under excruciating pains. Whereas, the frog is extraordinarily susceptible to the digitalis poisons, they have no effect upon the toad.—*Am. J. Pharm.*

MAGNESIUM SULPHATE IN IDIOPATHIC ERYSIPELAS

"Erysipelas is an inflammation of the skin and subcutaneous cellular tissue, having a tendency to spread.

"The cutaneous form is characterized by redness, elevation and burning pain; compression produces pale dimples, which soon disappear, and the cuticle vesicates.

"It normally terminates in a week or two, but may return to some other spot." (From the writer's college notes on surgery, 1865.)

"Idiopathic erysipelas is that form which does not follow trauma. It occurs usually on the face or scalp, and follows the usual mild course, invariably ending in recovery, unless complicated with some other affection." (The American Illustrated Medical Dictionary, 1901.)

"Erysipelas, idiopathic; that occurring without a visible wound." (Gould, Medical Dictionary, 1905.)

"Pure erysipelas is a mild, serous, and not a suppurative or destructive process; the patient should be protected against other forms of infection, liable to superimpose suppuration and necrosis on the erysipelatous processes." Sorensen (Sajous, Analytical Medical Encyclopedia, Vol. IV, page 577).

This appears to be all of the authorization for what is to follow, as all my other authorities make no distinction between the several varieties of erysipelas.

Sajous does make a questionable distinction, as, on page 579, Vol. IV, of his Encyclopedia, he says, "In the socalled idiopathic cases it is probable that, in most cases, we should seek for the cause in the air passages of the patient himself."

It is my experience that, while it is true that streptococci exist in the nasal cavities of many individuals, it does not follow that they are the cause of idiopathic erysipelas. This statement does not apply to the other forms of erysipelas, which are not under discussion.

I have found that idiopathic erysipelas is endemic in many of the colder parts of the American continent and, occasionally, epidemic in all parts of the United States.

My first experience with this disease was while on duty as a medical officer at Fort Randall, Dakota, in 1874, when an epidemic invaded the post.

At sick call, one morning, at least a dozen men appeared showing the characteristic symptoms of the disease and as this was a new experience I ordered the men to the hospital until I could look up a treatment for them.

In the post library I found a copy of Gross' "System of Surgery," the then current edition, and in it I found under the heading *Erysipelas*, "Magnesium sulphate, applied locally in saturated solution on compresses kept wet with the solution; also the same salt in small doses, internally, as a refrigerant and laxative."

This appealed to me as being a logical treatment and I at once applied it, with the result that relief was obtained immediately and the men were returned to duty in from three to four days from the time of admission to the hospital.

Some time after this I left the service and settled in Yankton, Dakota, where I found a condition the same as that which I had left, to wit: an epidemic of idiopathic erysipelas, and I used the same treatment as before. My success with the magnesium sulphate treatment brought me many patients who were promptly cured with no failures.

In 1876 I was called to Kentucky to take a practice in the country, near Lexington.

Almost my first case was one of erysipelas. Again the magnesium sulphate, locally and internally, relieved the patient at once and the attack subsided in less than seventy-two hours. Since 1874, and up to the present time, I have treated hundreds of cases without a single failure.

W. T. THACKERAY,

Fowlerton, Tex.

HEALTH SUGGESTIONS

1.—Take proper nourishing food in proper amounts, containing all the vitamine elements. Take plenty of vegetables, fruits and water.

2.—Get fresh air, day and night, in the house, and out of doors whenever possible, in any sort of weather.

3.—Get sunshine, either directly or by taking cod-liver oil, which is "bottled sunshine".

4.—Take proper rest and sleep, at least eight hours in an unbroken sequence.

5.—Wear suitable clothing for the occasion and season.

6.—Establish regular bowel habits for thorough elimination.

7.—Think of life in pleasant terms; to worry is to fritter life away.

HERMAN N. BUNDESEN,
Health Commissioner of Chicago.

THE FOUR-POINT METHOD OF LOCAL ANESTHESIA FOR HEMORRHOIDECTOMY

The operation for hemorrhoids is often made a major operation unnecessarily because of the general anesthetic administered to obtain anesthesia and relaxation of the anal sphincter, but a complete and thorough operation for hemorrhoids can be performed under local anesthesia quickly and with ease to the operator, and with no, or very slight, pain to the patient.

Local anesthesia is entirely adequate for obtaining relaxation when properly introduced. The argument long advanced for general anesthesia in rectal work, that relaxation sufficient for revealing adequately the internal hemorrhoids can only be obtained by a general anesthetic, is not borne out by experience.

Novocaine (procaine) is the anesthetic of choice. Occasionally there may be encountered slight evidence of poisoning. This may be avoided by the simple expedient of keeping the needle advancing while the solution is being introduced. In this way, though a vein should be pierced, little of the solution is allowed to enter the blood stream.

The patient is prepared as for a general anesthetic and put in the lithotomy position. The bowels should have been cleaned out by a cathartic the day before and a good soapsuds enema the morning of the operation. The anal region should be shaved. One-percent picric acid in water is good for sterilizing the skin. Procaine solution, 0.5 percent with 4 drops of 1-1,000 adrenalin chloride solution to the ounce, is used as the anesthetic. Circuminjection of the anus is the end desired, and it may be obtained as follows:

Four points of entrance are marked out around the anus about 1 inch from the anal orifice. One is located in the median raphe, anteriorly; one in the median raphe, posteriorly; and one on each side. An intradermal wheal with a small hypodermic needle may be made at the points selected. This allows painless injection with the larger needle. It, however, is not necessary. From these points the solution is injected. The needle should be slender, sharp, and about 10 centimeters long. It should first be introduced perpendicularly at one of the lateral points parallel to the wall of the rectum and should penetrate the sphincter and the levator ani. The needle is then partly withdrawn and passed obliquely in an anterior and posterior direction to its full length. Care must be taken to avoid injury to the urethra. At least 5 Cc. of the 0.5 percent solution is injected with each insertion of the needle. The same method is followed at the three other points. Sixty cubic centimeters of the solution should be used, and more if necessary. In fat persons more is required. The position of the needle may be controlled by a finger in the rectum. This is advisable until the operator becomes familiar with the technic. The sphincter begins to relax with the first injection and, by the time the four points are completed, dilation to the extent desired is easy and painless.

After anesthesia is produced and the sphincter dilated, any type of hemorrhoidectomy can be performed. The Allingham method of clamp and suture is an excellent one and gives the added comfort of small chance of postoperative hemorrhage.

Convalescence is considerably shortened. The patient is out of bed by the third day, often the second. He is allowed liquid diet

the day of the operation, a light diet the second day. There is considerably less local reaction due to the lack of congestion incident to the straining induced by a general anesthetic. If the anesthetic be properly introduced, no ill effects may be expected.

L. H. Williams, Lieut. Commander, Medical Corps, United States Navy.

(Reprinted from *U. S. Naval Med. Bul.* July, 1925.)

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[This seems a very practical and useful method for anal anesthesia, but we would earnestly advise any reader who purposes to use it to spend a few hours in careful study of the anatomy of the parts before he begins.

A thorough knowledge of anatomy is, of course, a necessary prerequisite for the successful practice of surgery, but this is especially true when one is working wholly by the light of one's anatomical knowledge, as in making deep injections into the tissues.—ED.]

QUESTIONNAIRE ON CHLORINE GAS

Medical Life announces that the responses to a questionnaire relative to the value of chlorine gas in the treatment of acute respiratory infections show a heavy preponderance of opinion in favor of its use. Those best qualified to judge as to its merits believe that, given under accurately controlled conditions and in exact dosage, it will, if given early, promptly relieve and often cure cases of acute respiratory disease, and that it exerts a favorable influence upon chronic cases.

This treatment is *contraindicated* in asthma and hay-fever.

THE KNEE-JERK*

The knee-jerk has been shown to be a reliable index to the general tone and irritability of the body and is now used as a diagnostic indication in lesions of the cord, particularly for the lumbar region. In the disease known as locomotor ataxia, the tracts of Goll and Burdach are affected and, as a result, the jerk is diminished or abolished altogether, according to the stage of the disease. So, also, lesions, such as occur in infantile paralysis which affect the anterior horns of the gray matter, destroy the reflex by cutting off the motor paths, while in other cases lesions affecting the pyramidal system may be accompanied by an exaggeration of the jerk. According to results obtained up to the present time, it is reasonable to suppose that any variation in the general bodily tone or irritability will be exhibited by a comparison of the knee-jerks of any group of subjects. This reflex has been studied by a number of investigators who pointed out that, if it is used as a quantitative measure, a number of factors must be carefully considered in securing the data.

While studying the knee-jerk, Lombard (1887) found that not only did it show a wide diurnal variation but that it was also influenced by exercise, cold baths, food, the strength of blow used in eliciting it, music and mental activity. Carlson (1916) observed that hunger contractions frequently increase the reflex response of the cord to such an extent that a standard minimal stimulus causes a maximal response. He observed also that the reflex excitability usually falls to normal during the pauses between the single contraction, and after the strong hunger period it appears to be somewhat lower than normal. He further observed that a stimulation of the gastric mucosa by hot or cold water introduced into the stomach by a tube, thus not stimulating the mouth or esophagus, invariably augments the knee-jerk in man.

Dodge (1911) and recently Tuttle (1925a) made similar observations with reference to the strength of the blow used to elicit the jerk. It was found that not only was it necessary to use a stimulus of constant intensity but the position where the stimulus impinges was also an important factor. These investigators also showed that in studying the normal knee-jerk a stimulus should be used which is submaximal, in fact, one not far above the threshold of response. While studying a large number of cases, it was found that 50 Grams was the most suitable for the majority of subjects. As far as the writer has been able to find, there are no data available with reference to the variation due to the age of subjects.

The attention of a subject while making a record has been shown by Tuttle (1924) to increase the extent of the knee-jerk very materially, depending upon the degree of attention. For this reason conditions must be kept as uniform as possible while records are being made. The writer observed that unfamiliarity with the apparatus and the

*Abstracted from *A. J. of Physiol.*, Dec. 1, 1925.

general surroundings were distracting factors and must be considered.

The activity of the subject previous to the experimental period is important. Lombard found that exercise such as stair-climbing lessened the extent of the knee-jerk while Sternberg (1887) concluded, after carrying out a similar investigation, that an increase in the extent of this reflex was an indication of fatigue. Recently, Brown (1925), while making a study of the effect of exercise on the knee-jerk, found that in some cases there was a marked increase while in others a decided decrease, and concludes that the extent of the knee-jerk depends upon the physical condition of the individual subject.

Mitchell and Lewis (1886), in studying the factors which increase and those which lessen the knee-jerk, observed a reinforcement consequent not only upon voluntary acts, but upon painful stimulation of the nerves of the skin either by pinching or by application of heat, cold, or electricity. A similar reinforcement was noticed when the eyes were exposed to the light of burning magnesium wire.

EMILY WILLIAMS,
Physiological Laboratories, Univ. of Illinois.

A GENTLE REMINDER

THIS IS TO REMIND YOU THAT ACCOUNTS REMAINING UNPAID AFTER THREE BILLS HAVE BEEN RENDERED, ARE TRANSFERRED TO MY COLLECTOR. IN CASE OF YOUR INABILITY TO REMIT PROMPTLY, A DEFINITE PERSONAL COMMUNICATION WOULD BE APPRECIATED.

Here is the reduced facsimile of a neat card used by an Ohio physician in the collection of his bills. It is an interesting example of a demand for prompt payment couched in terms of extreme moderation, yet bound to have a disquieting effect on a delinquent patient.

It contains a threat and a promise:—a threat to exert pressure if necessary and a promise to be lenient if the recipient will behave. It is not easy to imagine a man or woman with a grain of self-respect ignoring it entirely.—*Medical Economics.*

HOW TO AVOID INDIGESTION

Dyspepsia or indigestion is the source of several of the graver maladies afflicting civilized people. No one can be completely efficient in the modern struggle for existence if the stomach and the other digestive organs are disordered. Indigestion is a common cause of headache, mental depression, and rheumatism. Most of the popular "remedies" for indigestion are merely palliatives. A medicine containing opium will temporarily relieve the pain or discomfort, but it cannot remove the cause of the ailment.

Indigestion arises from a long-continued disregard of the principles of health, especially in the matter of diet. Most people have no knowledge of the physiology of the digestive organs, and do not know what to eat and how to eat it. Among the civilized, instinct alone is an untrustworthy guide in nutrition. We are daily in the act of eating. Only a very few persons pay attention to thorough mastication of their food. How to eat is one of the first and most important lessons for children. If a child is allowed to "bolt" his food, the chances are that he will suffer all his life from indigestion. Hasty feeding and imperfect chewing are difficult to cure in adult life. Good dietetic habits must be taught from early childhood.

Defective teeth are another cause of indigestion and its attendant evils. National health and efficiency depend greatly upon the soundness of the people's teeth. The teeth decay early through neglect, and the mass of the people show signs of chronic dyspepsia. The care of the teeth is a first step towards the prevention of indigestion.

Everyone should know that the process of digesting food demands an increased blood supply to the organs performing that vital function.

Activity of any organ involves a flow of blood to the organ, and good digestion is impossible if the blood is diverted from the stomach and small intestines to the brain.

There are physiological reasons why lively discussion during a meal interferes with the work of digestion.

The digestive apparatus and the brain cannot act effectively at the same time. While eating, the mind should be concentrated chiefly upon eating. Reading at meal times should be regarded as a contributing factor of indigestion.

Feeding when fatigued causes dyspepsia. If the chief meal of the day is eaten after

the day's work, most persons can rest for a while before dining. A heavy, hastily eaten meal at midday is seldom properly digested and assimilated. There is no time to rest before the meal, and frequently city men use their brains during luncheon by talking about business. A rest before and after dinner can be recommended to townsfolk engaged in sedentary occupations; but the after-dinner rest should be followed by moderate physical exercise, such as walking or gardening.

The last meal of the day should not be later than seven o'clock, and it should never be hurried. Upon retiring, a glass of hot water should be sipped. If afternoon tea is taken, it should be a light meal at four o'clock, but many persons would be better off if they drank tea only once a day.

B. SHERWOOD-DUNN,

Nice, France.

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[Although we disagree, to some extent, with one of Dr. Sherwood-Dunn's suggestions, there is much worth in what he says.

It is perfectly true that business conferences, reading, and heavily serious or unpleasant discourse during meals interfere markedly with the processes of digestion; but we have long held that light, pleasant and enlivening conversation facilitates these processes.

The spectacle of an enlightened human being giving his entire and concentrated attention to his victuals at meal-time is, to us, almost too reminiscent of the habits of the interesting and valuable members of the genus *Sus*.—ED.]

A SOLILOQUY — THE PHILADELPHIA COUNTY MEDICAL SOCIETY

I am a physician.

I am a member of a guild whose constant purpose through the ages has been to heal the sick, make the blind see, the lame to walk, and to comfort those who mourn.

I am rich in the heritage of history and traditions that have been handed down to me by the Fathers of Medicine. I am bound by the oath of Hippocrates to be faithful to those traditions and high ideals which bind our guild together in unity.

I should ever maintain a spirit of tolerance and forbearance toward my fellow members of the craft, remembering that we are all human and liable to err.

I must so live that when this mortal coil is shuffled off it may be said of me that I have ever been true to my obligation and that the traditions of medicine have not been sullied by me.

It is my duty to labor for the right; to fight wrong; to seek the good of mankind; to encourage the younger members of my profession; to work shoulder to shoulder with my confreres to attain those laudable aims and purposes, keeping in mind the truth that, when we travel together with unanimity of purpose, success will be ours.

"With malice toward none and charity toward all," I pledge myself to those high ideals which are entrusted to me.

We are the County Medical Society.—*A.C.M.*, in the *Weekly Roster and Medical Digest*.

MEDICAL ECONOMICS

Dr. Breuer's question, as to whether every patient should be given a thorough scientific examination and be made to pay for it or to be treated for those symptoms merely ot which he complains, and be charged a nominal fee, may be boiled down to a *practical* question as to whether the satisfaction of being a "thoroughly scientific" physician will compensate for a small or inconsequential practice or possibly "starving to death."

It is well to remember that the tendency of all acute diseases is toward recovery. The question may well arise whether a complete, scientific examination has, in a majority of cases, any real, practical value for a sufferer whose funds are short and who is having a hard time to get along financially and whose ailment is, in nine cases out of ten, of a more or less trivial and acute character.

Put yourself in his place. If you can really accomplish this piece of psychological gymnastics (very few can), you will probably object to heavy expense as much as he. Do your remember that time you took your car to the garage for a "trivial ailment" and it cost you $50.00 to $75.00 to get it out? If you have been driving ten or fifteen years, you do.

There are always a certain number of physicians who are business men practicing medicine. They "sell their stuff," and will derive an income two, three, or four times greater than will the average doctor doing the same amount of work.

It is no use for most of us to try to imitate them for we can't get away with it. These business doctors have the natural

born "trader" instinct—the thing, according to best authorities, that lies behind all real business (not speculative) success.

For the average physician, the watch word must be "eternal vigilance—but don't make it too expensive," and "Have a Heart."

PAUL R. HOWARD,

Kewanee, Iillinois.

ANOTHER ANSWER

We have patients who are, very often, not sick enough to need an examination; ordinary colds, grip, coughs, constipation, diarrheas, headaches, rheumatic pains, cold-sores, eczema, etc. People will run in and see their doctor for these minor complaints if he will look them over, ask them some questions and give them some medicine for about $1.00. If, tomorrow or next day, they feel worse, of course, tell them to let you know and come back, or you will come and see them. You can tell nine times out of ten if a patient has anything that is likely to get worse and make mention ot that possibility.

If we had all these patients undress and spent an hour making a physical examination of those just slightly ill and charged them two, three, or five dollars, they would go to the drug store with these minor ailments and the doctor would lose two-thirds of his income. Get these cases—the sick ones have to come.

I know my people here and I can tell by looking at them if they need an examination. To take the pulse, look at the tongue, put a stethoscope to the heart and lungs, feel over the stomach and ask a few questions takes five minutes, and I don't call that an examination that needs to cost the average patient over $1.00 unless you give more than a few pills. If you add 4 to 8 ozs. of medicine, charge $1.50 or $2.00 This thing looks simple to me and I do not call it a problem. Let us hear from others.

E. C. JUNGER.

Soldier, Iowa.

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[Our friends who have expressed themselves above appear to have failed to grasp the problem which is agitating Dr. Breuer (see CLINICAL MEDICINE for February, 1926, p. 124). They, in common with many others, see no problem whatever.

There are, however, some who are coming to feel that a reasonable part of the modern discoveries of medical science should be brought to the aid of the well-developed medical art possessed by most general practitioners.

It is, as these doctors suggest, wholly unnecessary that every patient who comes to the office should have a basal metabolism test, a study of his blood chemistry, a fluoroscopy of the chest, and many other highly technical examinations. *Some* of our patients need one or more of these procedures *badly*, but by no means all of them require such attention.

What is the minimum examination which a patient should receive? Does this include a routine uranalysis; blood examination; stripped physical inspection; ear, nose and throat study; or just what does it include? How much can and do you use your State Board of Health laboratory for diagnosis of smears and other specimens, including Wassermann tests?

There are, of course, "business doctors" upon whom we look askance. A shorter name for them is "quacks." There are, on the other hand, considerable and steadily growing numbers of thoroughly capable and high-class physicians who are coming, more and more, to a realization that there is an economic side to the practice of medicine and who are proving to their patients that it is economy, in the long run, to pay the price of really adequate medical attention.

We believe that every doctor can learn and apply some of these methods if we can find a teacher. Will some one or several of those who have met this problem give us the benefit of their experience and their helpful suggestions?—ED.]

A CASE OF SCLERODERMA AND TETANY

Because of a close relationship of the thyroid gland to scleroderma, this case has some bearing on the etiology of the disease.

Patient developed true tetany one month after operation, in conjunction with symptoms of scleroderma. She had the usual symptoms of exophthalmic goiter with a basal metabolism of 40 percent above normal. Lobectomy was performed. Symptoms of scleroderma and tetany came on at the same time, one month after the operation. The Trousseau and Chvostek phenomena were present. The skin was dry and patient did not sweat. Some of the symptoms suggested myxedema. The calcium content of the blood was 12 mgs. per 100 cc.

Patient showed remarkable improvement on desiccated thyroid extract, gr. ½, and calcium lact., gr. 5, t. i. d. Medication continued or 2 months. Symptoms of tetany improved, and the skin became softer and more moist.

The possibility exists that the parathyroids hypertrophied, thus accounting for the improvement in the tetany symptoms. This would not explain the improvement in the scleroderma.

This case showed at first marked hyperfunction of the thyroid. Following operation marked hypofunction of the thyroid is manifested by scleroderma and symptoms of parathyroid hypofunction.

CLINIC OF DR. R. C. MOEHLIG.
Harper Hospital, Detroit.

A MEDICAL SOCIETY MEETING

I attended a medical society meeting the other day and heard some interesting things. The physicians who read papers are known to be very able men, in their special lines of work. I know they are conscientious men and work diligently to cure their patients, so I would be the last man in the world to cast reflections upon their methods or results but, somehow, the proceedings struck me as humorous.

The first paper was on myxedema and was very ample and full of detail regarding diagnosis and treatment. In closing, the speaker said that, while there was a specific *treatment* for myxedema there was no *cure* —the patient would have to take the medicine as long as he lived.

There was another paper on insulin, which has to be injected into a patient once or twice a day for the rest of his life. There is no sport in that, I feel sure.

The next paper was on poliomyelitis. That was interesting, because spinal puncture and the examination of the fluid were demonstrated. We heard all about the newest methods of treatment—but the patients all died! The speaker closed with the statement that the true cause of poliomyelitis is not yet known.

Three lengthy and learned papers by three good men—but precious little to help me in the care of my patients from day to day!

There was another paper on "Why is the Medical Practice Act Not Enforced." I agreed with that man when he deplored the fact that regular physicians have to stand a rigid examination in order to get a license to practice, while chiropractors, neuropaths, midwives and other irregulars seem to get by without much trouble and to enjoy some sort of protection which we miss.

I had an appointment which took me away from the rest of the meeting. I wonder if I missed much.

J. M. RAPPOLD.

Bandera, Tex.

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[This is an excellent text for a sermon, but we are not going to preach a long one —merely make some suggestions.

If the local medical societies are to hold the interest of their members and be of value to them the essayists must be men who understand the conditions under which their hearers are working and can and will give them information and hints which they can *use*.

If you can get one *practical* specialist from out of town to present a brief paper on some phase of his work that appeals to practitioners, well and good; but the smaller County Societies should make it their aim to develop, in *their own members*, the spirit of study and research; of helpfulness and cooperation.

Every time one of your members writes a *good* paper he does himself and everyone else good. If he flubs the job, go after him, in the discussions, and make him wish he had done better.

The local societies, properly conducted, will do much toward the solution of some of our more pressing problems. Poorly conducted, their meetings are a farce. Get a good secretary, who is *enthusiastic*, and then *back him up* to the limit. Get together. *Feel* kindly and sympathetic and helpful. *Work!* You will be amply repaid for all the energy you spend in making your local society a power in the neighborhood.—ED.]

SHOULD TUBERCULOUS PERSONS MARRY?

At one time it was the prevailing opinion that the marriage of those afflicted with phthisis was under no circumstances to be contemplated.

More recently, however, greater experience has tempered this judgment with both mercy and common sense.

E. Ward, for example, finds the tuberculous woman loses nothing by marriage alone; the odds are over 2 to 1 that her condition will improve.

Pregnancy and parturition are likely to make her worse; there is a 50 percent chance of this compared with a 19 percent chance of improvement.

The children, however, are 7 times as likely to be tuberculous as are those of healthy persons.

Patients who ask for advice concerning marriage will not take it unless it coincides with their wishes. The best way to prevent an undesirable marriage is to procastinate. Each case, of course, must be considered on its merits from all points of view.

It should be emphasized that the chief risk is to the children. A woman of marriageable age with major tuberculosis should not bear children.

In lactation, it is wise for a tuberculous woman to breast-feed the child for 6 weeks certainly, longer in many cases, but never past 8 months; always with precaution if she is infective.

Roussel's vast experience shows that while conjugal contagion occurs in only 5.2 percent of cases, there are over 25 percent in which children are infected from a tuberculous parent.

Of interest in this connection was the observation, several years ago, that the perspiration of patients with closed surgical tuberculosis gives positive inoculation results in guinea pigs in 30 percent of cases.

On the other hand, Drolet believes that the previous tuberculization of the parents, instead of causing predisposition to the disease on the part of the children, confers a certain degree of immunity upon them, and that this inherited immunity is one of the factors which has contributed to the steady decrease in tuberculosis during the last half-century.

The experience of the Cambridgeshire Tuberculosis Colony, at Papworth, England, is also very striking.

The Report of the Executive Committee states that "not a single case of tuberculosis has as yet arisen amongst the children of the colonists living in the village attached to the institution."

The consensus of recent opinion seems to be that, while marriage of tuberculous individuals is not necessarily contraindicated, it is a propitious occasion for the physician to act as a health counsellor and for the prospective parents to heed his advice.

NOTES AND ABSTRACTS.

(*Bull. Chicago Tuberculosis Sanitarium*).

DR. BRABSON'S CASE

Since Dr. Brabson invited discussion of his case which he reported in the December, 1925, CLINICAL MEDICINE, p. 866, I will suggest that if he will study *heat centers* and *clinical phenomena* in some good books on neurology, I think he can find all the evidence he will require for the correct diagnosis.

He will find that the optic thalamus is man's main heat regulating center and that it is connected, by arcuate fibers, with the cortex, internal capsule, and the pons, and is composed of white and gray matter. The white is sensory and a lesion in this region or nearby will cause all the symptoms reported; viz., pain in the back and limbs, profuse perspiration, hyperpyrexia, spasm, coma and convulsions, irregular respiration, varying between four and forty. The temperature differs on the two sides of the body, the left is usually the higher.

In regard to the character of the lesion in this case no one can state. It is possible that a latent abscess ruptured into the third ventricle and thus, through the iter, into the fourth ventricle which is the most serious form of brain apoplexy; a grave condition.

In cases of this type you may find albumen and even sugar in the urine. If so do not jump at the conclusion that you have a case of nephritis, unless you have previous knowledge of the case, for we frequently find albumen in these cases. Moreover, do not forget the possibility of the two conditions coexisting. Let us hope we may hear from some younger man with more modern views.

C. C. PERRY.

West Rutland, Vermont.

LARYNGEAL PARALYSIS ACCOMPANYING THYROID DISEASE

Discussion based on two cases seen before thyroid operation and four after operation.

In one, no voice change has been recalled by the patient before operation. In all others only slight changes in voice and no respiratory difficulty had been experienced.

Typical Case.

Mrs. H., age 40, had lobectomy ten months ago. Family had noticed a coarser quality in her voice for two months before operation but no respiratory difficulty of obstructive character.

One week after operation, on waking in the morning, patient thought she would choke

but calmed herself and was with difficulty able to breathe slowly. Voice good but of lower register. Inspiration was a constant effort and patient often became cyanotic.

Examination showed bilateral abductor paralysis.

Under 10 percent cocaine anesthesia, Jackson's operation (ventriculocordectomy) was done on right side, which greatly relieved respiratory difficulty but reduced the voice to a whisper.

Granulations at the site of operation required two applications of silver nitrate. Five months later the same operation was done on the left side, which afforded still more relief to inspiration, but voice continued to amount to a rough whisper. During a catarrhal pharyngo-tracheitis. There was no difficulty in expectoration.

CLINIC OF DR. H. LEE SIMPSON,
Harper Hospital, Detroit.

COLONIC IRRIGATIONS

Of late more attention has been given to disorders of the colon and the methods for relief than formerly. Chronic ailments, the sequence of auto-infection, may have their focus in a lazy colon; hence, it is essential to keep the colon clean. Shall it be by purgatives which are not always effective or by irrigation? If by the latter, the following technic is preferable to the high irrigation with catheters, which may result seriously.

Equipment: 1 2-quart enema bag; 1 enema tip; 2 hair pillows, one 6x22x5 inches; the other a little smaller. The larger pillow is placed under the mattress; the smaller on top of the mattress. The patient's hips are elevated on these. The head is low and the legs straight.

Give one pint of clear water—temperature 98° to 100°, F., the patient being on the left side. Be sure the head is low, hips high, legs straight.

After the injection, have the patient turn on the back for one minute; then on the right side, legs still straight, for five minutes; then get up on the commode and expel the enema.

After five minutes' rest, prepare for a second enema. In the same posture inject two quarts of water at 110° F. with two teaspoonfuls of sodium bicarbonate. Follow the same technic—turn from the left side to the back; then to the right side. Hold the enema for five minutes or, if possible, ten, but no longer than fifteen minutes. Arise, expel and rest for five minutes.

Third enema: two quarts of water at 110° F., with two teaspoonfuls of sodium lactate. Use the same technic. Hold the enema at least five minutes; if possible, ten; no longer than fifteen.

This time place paper in a separate vessel so that the character of the discharge may be seen. The sediment at the bottom of the commode is the poisonous retained matter from the colon.

Give the set of three enemas daily or until the final return is clear with a little mucus like white of egg. Then the patient has a clean colon.

I would recommend for refenece, "The Lazy Colon," by Charles M. Campbell, published by The Educational Press, N. Y.; and "Colonic Therapy", by O. Boto Schellberg, published by The American Institute of Medicine.

H. F. BIGGAR.

Cleveland, O.

CONCERNING THE OSTEOPATHS—AND US

I wish to contribute my mite to the osteopathic discussion started in the February number of CLINICAL MEDICINE.

First, we, as Regulars, are not allowed to advertise. That is as it should be, but it handicaps us in meeting irregular competition.

Next, our four to six years' training takes practically all the handshaking and "mixing" qualities out of us. Nothing but clinical studies for that period of time makes a poor basis for good-fellowship.

These things, together with our strict system of professional ethics and a certain amount of back-biting and jealousy which, unfortunately, exists among us, gives our osteopathic friends a considerable advantage.

ALFRED KELLETT.

Doddridge, Arkansas.

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[We are happy that the editorial mentioned by Dr. Kellett stirred up *some* comment. We hoped it would. We hope there will be *more* of it!

There really is no reason why the study of medicine should be a dehumanizing process—quite the contrary.

Read what President Little, of the University of Michigan, has to say, as reported on page 241 of this issue. Maybe his suggestions would prove helpful.

Changes in medical curricula will take time, and none of us can influence them very profoundly; but changes in *us* happen whenever we please. There is, however, only one man over whose conduct you have full control, and that is the fellow who habitually puts on your hat when he goes out to walk or to work. If *he* can be prevailed upon to view all men—and especially all doctors—as his brethren, and to cooperate with them, sincerely and whole-heartedly, for the advancement of the profession in general, we can put a crimp in the osteopathic propaganda in short order. If not—well, what is your idea of it?—ED.]

WHAT IS A HABIT?

"Habit" is such a common, everyday sort of term, with which everyone is more or less familiar, that it hardly seems necessary to discuss it at all. However, it is in this very fact that habits are so commonplace and ordinary, in the minds of the great mass of individuals, that the danger lies. All too frequently the fundamental importance of forming right habits in early life is minimized or overlooked altogether.

Without any attempt to give a strictly scientific definition, it may be said that habit is the tendency to repeat what has been done before. One develops not only habits of acting but habits of thinking and feeling in certain ways. Habits in regard to the care of the body—eating, sleeping, eliminating, bathing—are easily formed and vitally affect health.

Our manners are a collection of habits; we do a rude or a courteous thing almost without stopping to think.

If we did not learn the muscular movements which became habitual through repetition we could never play the piano, run a typewriter, or gain skill in athletics. Of course, children must learn the simpler motions first—the use of knife and fork, the buttoning of buttons, and the tying of knots.

The morals of most of us are, to a large extent, the result of habits of thinking formed in early life—our attitude toward the drinking of alcoholic liquors or the taking of others' property, or the problem of sex, as well as our attitude toward other people, whether sincere or deceitful; friendly or antagonistic.

Most of our prejudices are the outcome of habits of thinking formed in childhood. Many persons as children develop a feeling about racial and religious differences which may lead in later life to intolerance and hatred toward their fellowmen. This same attitude of mind is seen in children toward their playmates who have the misfortune of being orphans, or a child whose mother is a scrubwoman, or whose father is a garbage collector, or who is boarded under the care of a child-placing agency. Care should be taken to see that children are early taught kindness and consideration for those less fortunate, for unconsciously they will form their attitudes from the home atmosphere.

D. A. THOM,

Boston, Mass.

(*Concluded from page* 262)

was only after the administration of a narcotic that the pain subsided sufficiently to permit a night's rest. The tumor had not been there a few days formerly, as a general physical examination, made at that time, failed to reveal anything palpably abnormal.

The next morning the mass was still there, as large as a child's fist and, being now less tender, was found to be connected with the viscera, but immovable. Pressure still caused the patient to complain of sharp pain.

Urinary analysis and a differential leucocyte count showed normal conditions. There was a rise of the pulse rate to 90 and of temperature to 100° F. An enema was required to afford the patient some relief from gaseous distention, but this was followed only by the passage of flatus and a few fecal "shreds".

The patient had a moist tongue, good facies and did not impress one as being seriously ill.

Requirement: Tentative diagnosis; the proper means to arrive at an exact diagnosis; temporary and definitive treatment; prognosis.

The Leisure Hour

Conducted by GEORGE H. CANDLER, M. D.

Vacation Suggestions

Canyon Automobile Camp, Yellowstone National Park

IN 1924, there were 144,158 visitors in Yellowstone National Park, 100,186 of whom came in 30,689 automobiles. These visitors represented every state in the Union, as well as Alaska, the Philippines, Hawaii, the Canal Zone, and 23 foreign countries. Maybe you were one of these, or maybe you expect to be this summer.

The mingling of such large numbers of people from all over the country begets large public health problems and The National Park Service, with the cooperation of the United States Public Health Service, is trying to solve these problems by the establishment of small camps, provided with all necessary sanitary arrangements for comfort and health, for the convenience of automobile campers.

The latest of these is that on the Canyon of the Yellowstone, located along the main road from Yellowstone Lake to Tower Falls, near the point where a branch road turns off to Norris Junction.

The camp covers an area of 30 acres, with enough trees for shade and well sloped for good drainage.

Good water is obtained from Cascade Creek, pumped to a reservoir and piped throughout the camp. About 10,000 gallons of water are used daily for sprinkling the roads, to keep down the dust.

The camp has four comfort stations—two for men and two for women—and the sewage is adequately taken care of by a modern septic tank, located so as to cause no nuisance and operated under the supervision of a representative of the U. S. Public Health Service.

Garbage, refuse and ashes are placed in small pits by the campers and hauled away to a proper dump by the camp cleaner.

Mosquito-control measures are being carried out, although there are no anopheles mosquitoes in the vicinity.

There is a log building, serving as a ranger station and community house, where facilities for indoor recreation are available. There are also a general merchandise and grocery store, a photograph supply store, automobile supply store and a filling station. There is a daily mail service throughout the park season.

Good fishing streams are within a quarter of a mile of the camp, and the Grand Canyon of the Yellowstone River is at the same distance. The Canyon Hotel and the Canyon Permanent Camp are about half a mile from the automobile camp. Horses may be obtained at these places for rides in the vicinity.

Upon entering the park, a permit is issued at a cost of $7.50 per car, and all cars are checked when they enter or leave the park at the four exits.

Here is an interesting suggestion for those who plan to spend their vacations by taking an automobile tour.—*Adapted from U. S. Public Health Report*, by G. B. L.

COUNSELLOR HOW IS MY HEART

Truth is stranger than fiction. A well-dresed man was talking with an automobile mechanic. He was discussing, not pistons and rings, but stains on his teeth.

The gist of the mechanic's advice was that it was unwise to go to the dentist, as his method of cleaning would probably scrape the enamel. The final dictum of the automobile expert was that the best thing to do was to use a certain brand of tooth paste and be the lucky one of five.

That afternoon this same individual played three sets of tennis with a dentist. While they were under the showers, he re-

marked that his car was choked with carbon and that he was going to have the valves ground.

The dentist promptly replied that grinding the valves was entirely out of date, and that burning out the carbon by the oxy-acetylene process was a much more satisfactory job. Thereupon the worthy individual proceeded to have the carbon burnt out and to purchase a tube of tooth paste!

And to think that they still send to Africa for elephants' tusks when this country is so heavily overstocked with ivory!

* * *

It was in a country store in Arkansas. A one-gallus customer drifted in. "Gimme a nickel's worth of asafetida."

The clerk poured some asafetida in a paper bag and pushed it across the counter.

"Cha'ge it," drawled the customer.

"What's your name?" asked the clerk.

"Honeyfunkel."

"Take it," said the clerk. "I wouldn't write asafetida and Honeyfunkel for five cents."—*Med. Pocket Quarterly.*

The convalescent—"Did you have my brown suit cleaned and pressed while I was in the hospital?"

His wife—"No, I had your black suit fixed up; I thought that would be better in case anything should happen."

The golfer nonchalantly stepped up to the tee and swung one of those carelessly careful drives. The ball sailed straight down the fairway, leaped gayly across the green and dived into the hole like a prairie dog.

"What have you suddenly gone crazy about?" inquired the golfer's wife, who was trying to learn something about the game.

"Why, I just made a hole in one!" yelled the golfer as he essayed a double handspring with a wild gleam of delight in his eyes.

"Did you?" sweetly said the little woman. "Please do it again, dear. I didn't see you." —*Town Life.*

MUST HAVE BEEN SOME HOOTCH!

A Nebraska editor made up a batch of home brew or "hootch" and then endeavored to write up a sale bill and the following is what appeared in his paper the following week:

"Married at the home of the bride's township one mile north and two miles east of Mr. and Mrs. John Jones, highly respected residents of Thursday, January 27. Miss Esther Drinkwater by the Rev. 18 head of short horns consisting of four bridesmaids dressed in pale blue and carrying calves by their sides. They had tulle veils sired by the noted Kentucky jack, Bombina 3d. Also forty-six head of hogs including the groom's father from North Dakota, where he is engaged in missionary work, and is immuned by double process. These shoats are thrifty and all relatives of the bride and groom. They all gathered in the spacious dining room after the ceremony and partook of 300 bushels of seed sacks of millet and alfalfa. The bride is the youngest daughter of one Trusty incubator, capacity 600 eggs, one John Deere, five room cottage and a trip to Omaha after which they will draw 10 percent interest from date. Free lunch at noon."—*J. A. M. A.*

A RESOLUTION

Rescolved, that while this year I seek
To guard the roof from vicious leak
And merit bed, coat, loaf and fire,
A splendid picture I'll admire;
Of music and good books I'll quaff
My fill, and save fair time to laugh.
I'll settle, too, some ancient scores
I've had 'gainst Nature's great outdoors.
But though I thus myself attend,
I'll never once forget my friend;
Nor selfish be, but lend a hand
To meet humanity's demand.
I'll mix good will with reverence high,
The man with God, the earth with sky;
And while deep draughts of life I drink,
I must withal take time to think.

—Arthur M. Corwin, M.D.

Municipal Tuberculosis San. Bull., Jan. 1926.

SHELLFISH MOTIVE

The Lady—"Are you fond of lobster salad, doctor?"

The Doctor—"No, I'm not fond of it, but I'm grateful to it."—*Western Druggist.*

The exercise that reduces the waist-line most quickly consists in placing both hands against the table and pushing back.—*Nashville Tennesseean.*

If you chance to meet sneezer, swat him promptly on the beezer; thus you stifle his cadenza and avoid the influenza.—*Louisville Times.*

Diagnostic Pointers

TAKING TEMPERATURES

No matter what is marked on your clinical thermometer as the time required for it to register—½ to 1 minute—it is extremely rare that a truly correct reading will be shown in less than three minutes. If you will *always* leave the thermometer in the patient's mouth for 3 to 5 minutes, taking care that it is *under* his tongue and that his lips are closed, you will be much more certain to know just what is going on.—DR. MAX. KERN, of Chicago.

TUBERCULOUS SPINE

The child walks with slightly bent knees, the weight carried on the forward part of the feet to avoid striking the heels on the ground. The trunk is held rigid. The muscles on either side of the spinal column are prominent. When the child stoops to pick up something, the spine is held erect and the bend is at the hips and knees. When he rises he assists himself with his hands on his knees.—DR. EDWARD KING, in *Arch. of Pediat.*

UREMIC HEADACHE

A frontal or occipital headache that is worst in the morning and accompanied by vomiting, drowsiness, dyspnea, disturbance of vision and changes in the eyegrounds, high blood pressure and edema suggests nephritis or uremia.—DR. W. C. MOORE, of Washington, D. C.

GASTROINTESTINAL HEADACHE

A throbbing headache, increased by moving about and relieved by the recumbent position and by purging, suggests digestive disturbance.—DR. W. C. MOORE, of Washington, D. C.

OCULAR HEADACHE

Very small degrees of ametropia, especially astigmatism, give rise to headache more frequently than large errors.—DR. G. E. DE SCHWEINITZ, in *Bull. N. Y. Acad. of M.*

CAUSES OF HEADACHE

Extracranial forms of headache originate in disturbances of the eye, ear, nose, throat, sinuses, teeth, jaw, and the periosteum and nuscles of the skull.

Referred headaches may be due to eyestrain, unerupted wisdom teeth, or gastric hyperacidity.

Toxic headaches result from alcohol, tobacco, coffee, tea, focal infections, uremia, intestinal toxemia and diabetes.—DR. LUDWIG KAST, of New York City.

THE TIME ELEMENT IN HEADACHES

Morning headaches suggest functional pituitary hyperplasia, nasal sinus disease, migraine and kidney disease. Evening headaches point to eyestrain or fatigue. Headaches with irregular onset may be due to toxemia or organic disease of the brain. —DR. W. C. MOORE, in *Ann. of Clin. Med.*

THE KIDNEYS AND THE NASAL SINUSES

Nephrosis, in children, is almost always due to a primary infection of the maxillary sinuses; while glomerular nephritis results from infections of the tonsils.—DR. BROWN, of Buffalo, N. Y.

COLDS AND INFLUENZA

There seem to be cases of common cold and ordinary influenza which are almost indistinguishable clinically, and the bacteriological findings in the two types of cases are practically the same.—SURGEON GENERAL, U. S. P. H. S.

FLATULENCE

With few exceptions, flatulence is a symptom resulting from the habit of aerophagy, or air swallowing, and the fermentation theory of its origin is, apart from rare instances, a legacy of obsolete conceptions. —DR. T. L. HARDY, in *The Lancet.*

APPENDICITIS OR MENINGITIS

In some cases of meningitis in infants, there are symptoms strongly suggestive of appendicitis, especially board-like rigidity of the abdominal muscles. This last is due to cutaneous hyperesthesia. If the hand is laid gently on the abdomen and kept there, perfectly quiet, until the skin becomes accustomed to the gentle pressure, palpation by moving the fingers up and down, without changing their position on the skin, will elicit no rigidity whatever.

This sign is very suggestive. If it is present, look for stiffness of the neck, Kernig's sign and the other signs of meningitis.—DR. A. H. WATERMAN, of Chicago.

MOLES AND CANCER

The ordinary small, pigmented mole is of almost universal occurrence and rarely undergoes cancerous degeneration. The flat, bluish-black moles are much more likely to do so, and when they do we generally have a melanocarcinoma which is promptly fatal. —DR. HOWARD FOX, of New York.

THE HISTORY IN DIAGNOSIS

Listen to the patient's story in his own words and help him to give you a clear and complete history. In most cases, a diagnosis can be made from the history to relieve the patient of that of which he complains.—DR. J. P. KENNEDY, of Charlotte, N. C.

WHOOPING COUGH

One-half of the deaths caused by whooping cough occur in children under one year of age, and 94 percent in those under five years. The education of parents [and physicians?—ED.] as to the extreme danger of whooping cough in very young children is strongly advocated.—U. S. PUB. HEALTH SERVICE.

"NEURASTHENIA"

In the nervous, run-down patient, without obvious lesions, be sure, in *every case*, to carefully consider and fully exclude *syphilis* and *tuberculosis* before looking further. If these are negative, look for intestinal toxemia, focal infection and fibrositis.—DR. A. F. KRAETZER, of New York.

POSTOPERATIVE PULMONARY COMPLICATIONS

Out of every 30 to 50 patients operated upon, under general or local anesthesia, one will develop postoperative pulmonary complications (often pulmonary embolism); and one out of every 100 to 150 patients will die.—DOUGLAS BOYD.

COURT AND COMPENSATION CASES

Long-continued pressure or strain can produce definite and pronounced changes in the skeleton; and such changes may arise as a result of a man's occupation, even when there is no actual pressure or strain, as an effort of nature to adapt his frame to the conditions under which he lives and works.

This fact should be remembered in examining patients in medicolegal cases or where insurance or compensation is involved. Is the deformity which may be obviously present the result of an accident or of the man's occupation and mode of life?—SIR W. ARBUTHNOT LANE, of London, England.

DIAGNOSIS OF PELLAGRA

Diagnosis of pellagra in early stages is often difficult. When the "pellagrous triad" (dermatitis, nervousness and diarrhea) is present diagnosis is easy, but frequently too late for treatment. In the early stages dermatitis and diarrhea may be mild and transient. Symptoms in the mouth, esophagus and stomach appear early, and frequently persist between attacks. These are:

1.—Anorexia — "Food does not taste right"—Painful deglutition.

2.—Pyrosis—"Dyspepsia"—"ball of fire rolls up from stomach."

3.—Nausea — (Occasionally vomiting)—"Misery" in stomach.

4.—Belching and distention of belly—"Ball in stomach".

5.—The appearance of the *tongue* is characteristic.

a. More or less *denuded of epithelium*, at tip and edges.
b. *"Stippled"*; swollen papillae project through coat at tip.
c. *Irregular tremor* when extended.
d. *Aphthae* on gums and cheeks.
e. *Fissures*, Longitudinal or transverse.

DR. THOMPSON FRAZER, in *J.A.M.A.*

ITCHING AND SYSTEMIC DISEASE

In practically all of the dermatoses characterized by itching—whether these conditions show definite lesions of the skin or not —there is some underlying morbid condition of the general system which must be painstakingly searched for and removed before the skin condition can be cured. These underlying conditions vary all the way from a slight dietary indiscretion to Hodgkins disease or diabetes.

DR. WM. H. GOECKERMAN of the Mayo Clinic.

Current Medical Literature

PROGNOSIS IN MENTAL CASES

The average layman feels that a case ot "insanity" is absolutely hopeless as to cure and, unfortunately, a considerable number of physicians agree, substantially, in this gloomy view.

In the *J. A. M. A.* for August 15, 1925, Dr. Earl D. Bond, of Philadelphia, shows, from statistics of the mental disease department of the Pennsylvania Hospital, that this unfavorable prognosis is unjustified.

Of 1,054 consecutive admissions for the more severe mental diseases, 1,024 were followed up for five years or more. These included maniac-depressive psychoses, dementia precox, paresis, involution melancholias, paranoid conditions, etc. Of these patients, 274 (26.7%) recovered and stayed well; 159 (14.5%) improved greatly, so that most of them were able to earn a living; 331 (32.3%) died; and 260 (25.5%) remained stationary or grew worse. No patient is listed as recovered who has relapsed at any time since his discharge. Some of the cured patients are better than ever before. None of the paretics or precox cases recovered.

In any group of persons, many of whom are well advanced in years, the mortality, over a period of five or ten years, will be considerable. A number of these patients died of influenza and other conditions having no relation to their psychoses. All of the patients with senile and arteriosclerotic psychoses died.

Most surgeons and internists would feel satisfied if 25 percent of a thousand consecutive cases were restored to full function and 15 percent more greatly improved, over a period of five or ten years, so the prognosis in mental cases compares favorably with that of other conditions.

Treatment, in these cases, is much more effective when begun early, so every physician should be on the alert to recognize mental disorders in their incipiency.

Because of the gloomy prognosis in cases of dementia precox, we should not make this diagnosis and give up hope until every other possibility has been excluded.

SEASICKNESS

Dr. P. H. Desnoes, Port Medical Officer of the United Fruit Company, at New York, discusses seasickness, out of a wide experience, in the *J.A.M.A.* for January 30, 1926.

He feels that this distressing condition is caused, directly, by overstimulation of the organs of equilibrium in the labyrinth, with an overflow of stimuli to the vagus and sympathetic centers.

Many other factors, however, enter into the condition, such as muscle-sense disturbance; eyestrain; peripheral vagus stimulation, due to the irregular and unusual movements of the abdominal organs; psychic impressions; and intestinal autotoxemia.

Dr. Desnoes believes that many passengers can avoid seasickness by adopting a suitable hygienic regimen for a week or more before going aboard ship. This should include abundant exercise in the open air—especially for sedentary workers; plenty of sleep; thorough elimination; and a diet tending to reduce the hydrogen-ion concentration of the blood and increase its buffer salts. This means the free use of vegetables of all sorts and fruits, especially the citrous varieties, and the avoidance of meats, pastries, candies and other sweets made from white sugar.

As to treatment, all physical abnormalities should be corrected, so far as possible. Among drugs our main reliance is upon scopolamine (hyoscine or atropine—ED.) and strychnine, with the addition, in some cases, of chlorbutanol or some other centrally acting sedative hypnotic.

SODIUM BORATE IN HYPERTHYROIDISM

Loeper and Ollivier believe that sodium borate (borax) has a selective influence on the thyroid gland and, in the *Bull. Soc. méd. hôp* for May 15, 1925, they recommend the daily administration of 2 to 4 Grams of this drug, in a 5-percent solution, to be taken during meals. This may be combined with a similar solution of sodium citrate if this seems to be indicated. In exceptional cases the solution may be given by rectum.

Six cases are reported in which this treatment was used, with marked improvement in the cardiac, nervous and digestive symptoms.

THE VALUE OF THE ROENTGEN-RAY IN DETERMINING CONDITIONS OF THE APPENDIX

No case in which acute appendicitis is suspected should be given x-ray examination with an opaque meal or enema.

In chronic conditions, where a lesion of the appendix is suspected or the underlying cause is obscure, x-ray examination with a barium sulphate meal may indicate definitely that the appendix is the seat of trouble. Negative findings do not definitely exclude appendiceal disease.

The author administers castor oil on the night preceding such examinations. Immediately after the opaque meal, the stomach and duodenum are examined fluoroscopically. A second examination is

made 6 hours later; then, 12 to 18 hours after.

Direct or positive signs of appendiceal disease are: Abnormalities in the contour of the lumen of the appendix; marked delay in emptying after the contents of the cecum have been expelled; abnormal fixation or kinking; presence of retained fecal concretions; tenderness of pressure over the appendix as visualized by roentgenological examination.

The most important indirect evidences are: pylorospasm; ileal stasis; and spasticity. Dr. A. L. Gray, of Richmond, Va., in *South, M. J.* for April, 1925.

ENDOCRINE EFFECTS

In the *Amer. Physician*, for August, 1925, Dr. R. B. Weiler, of Del Norte, Colorado, deals with the practical aspects of endocrinology and states some general principles with which all physicians should be familiar.

The results of thyroid deficiency are stated to be: deficient tissue oxidation; deficient breaking down of waste products, fats, etc.; and deficient resistance of the body to diseases, infections, intoxications, etc.

The adrenal secretion affects various organs and tissues as follows:

1.—The heart beat is slowed and strengthened.

2.—The coronary and cerebral vessels are dilated; all others constricted.

3.—Secretion is stimulated in the lachrymal, mucous, salivary and lymphatic glands.

4.—Secretion is inhibited in the pancreas and kidneys.

5.—Sweat glands show primary inhibition, followed by stimulation.

6.—Metabolic rate and general tone is raised.

7.—The esophagus, cardia, gall-bladder and urinary bladder are relaxed.

8.—The gall duct, uterus, fallopian tubes, vagina and penis are constricted.

9.—Intestinal peristalsis is inhibited.

ARE RHEUMATICS GOOD WEATHER PROPHETS?

It is a common experience that rheumatic patients insist on being able to foretell changes in the weather. The doctor will usually gravely agree with them oven though he does not know why this possibility should exist. However, at the last annual meeting of the British Medical Association, during a discussion of chronic arthritis, a plausible explanation was afforded before the Section of Therapeutics by the Chairman, Prof. R. W. Wild (*Brit. Med. Jour.*, Oct. 10, 1925, p. 638).

Prof. Wild mentioned the fact that he himself was suffering with chronic arthritis which dated back to a severe attack of scarlet fever acquired in hospital work thirty-five years ago. Following the scarlatina, he had a very sharp attack of post-scarlatinal rheumatism with swelling of the joints, in the hands particularly.

So far as he knows, he recovered perfectly in five or six weeks; but years afterwards he noticed the gradual onset of pain and stiffness in the joints of the fingers and the hands. Only those joints were affected that had been primarily involved in the post-scarlatinal rheumatism. There was never any trouble elsewhere. An osteoarthritis had developed with a certain amount of crippling in the fine movements of the hands. Despite various treatments, no particular benefit had been afforded and he found that it was necessary to make the best of the situation.

Prof. Wild then pointed out one thing which had hardly been mentioned in the discussion and that was the question of climate. He said that the condition of his hands, as regards capacity for work, depended a good deal upon the weather. By pains in various joints he could foretell the onset of damp weather about twenty-four hours before the barometer fell.

Why should an increase in the moisture of the atmosphere cause changes of a sensitive nature to take place in joints that were continually bathed in fluid? The only explanation that he had been able to find was the result of some observations made by a chemist, Dr. Thompson of Manchester, during experiments he carried out on the estimation of the amount of carbonic acid in the expired air in the case of mice kept in chambers in which the humidity of the air was varied. When the humidity reached a certain point, the elimination of carbonic acid from the body was much diminished. It seemed to the speaker that it was quite possible that one might find in the accumulation of carbonic acid in the body some explanation of the obscure pains. He was rather confirmed in this opinion by the result of experiments on his own diet. He found that, if he took sugar in slight excess, this was always followed by an increase of joint pains. Everyone was aware of the readiness with which sugar was oxidized in the blood and tissues, and it was possible that so readily oxidizable a carbohydrate as sugar might easily lead to an increase of carbon-hydrogenization in the blood. The questions of climate and of diet were important factors in the treatment of many of these cases of chronic arthritis.

H. J. A.

BOTULISM

In a special article in the *J. A. M. A.* for February 13, 1926, the occurrence of botulism from 1922 to 1926 is discussed. In this period 56 outbreaks have occurred, with 159 cases and 124 deaths—a mortality of 78 percent.

Over a longer period the average number of outbreaks is shown to be 13 per year.

Where the food causing the trouble was known it was vegetables in 38 outbreaks; meat in 4; fish in 4; fruits, 1; and pickles, 1. In 36 outbreaks the food was home canned and in 11 commercially canned.

In 18 out of 41 cases the container appeared normal and the food was normal in odor and taste; in 23 cases the containers and the food appeared abnormal but were, nonetheless, used as food.

Forty-six outbreaks occurred in the West; seven in the Middle West (in 4 of these the food was canned in the West); and 3 in the East; none in the Southern States.

IODINE INTRAVENOUSLY

In the Orient, particularly in India, quite extensive use is made of tincture of iodine or of Lugol's solution, injected intravenously, and in the *Indian Med. Gaz.* for December, 1923, (Abst. in the *Prescriber*) Dr. W. W. Jeudwine summarizes results and gives his technic.

The patient's arm is prepared for intravenous injection in the usual manner. The equivalent of 0.5 to 1.0 Cc. of tincture of iodine (U. S. P.) or 1.0 to 2.0 Cc. ot Lugol's solution (iodine 2, potassium iodine 3, water 40) are drawn into the syringe then filled to 10 Cc. with distilled water, mixture taking place in the barrel. The injection is made into a large vein, taking care that the needle does not touch the sides of the vessel.

A sharp reaction takes place in an hour or two, with a temperature of 102° to 104° F. and marked leucocytosis. The more prompt and positive the reaction the better the results. The dose may be repeated in 7, 10 or 14 days, according to the condition of the patient.

This treatment has been used with gratifying results in cases of suppurating wounds, tuberculous adenitis, corneal ulcers, septicemia, bubonic plague and, in fact, any condition which is benefited by a prompt and decided increase in the number of leucocytes.

Slight local thrombosis of the injected vessel sometimes occurs, and, rarely, iodism follows these injections, but the method is well thought of by many of those who have used it.

DRUGS

In the *American Mercury* for March, 1926, Dr. Logan Clendening, of Kansas City, author of "Modern Methods of Treatment," writes in an entertaining and convincing manner of the value of drugs in the treatment of disease.

He feels that the partial or complete "therapeutic nihilism" of twenty or twenty-five years ago is passing—and ought to pass.

The action of drugs on the human economy is being intensively studied by some of the ablest minds of our generation, and these studies tend constantly to support and augment our confidence in their therapeutic value.

The use of drugs in medicine has shared in the immense scientific advancement of the last generation, and the study of physiology has given a great impulse to pharmacology and pharmacotherapy.

This article sets forth the story of digitalis in a guise as intriguing as fiction—how Dr. William Withering got the idea of its use from an old "herb woman," who administered it wholly empirically—but with success; how he studied it and began to map out its field of usefulness; how James Mackenzie carried on the studies and finally, in collaboration with Arthur Cushny, worked out the rational and scientific basis for its use.

Such an article, by a man so keen and able as Dr. Clendening, is truly refreshing after the drug pessimism which is still prevalent in many quarters.

DANGER FROM DOGS

In the *J. A. M. A.* for October 3, 1925, Joannides and Riley discuss the diseases which the dog may transmit to man. These include those due to parasites which he may carry as an intermediate host, as well as those where infectious materal is carried directly from one home to another.

In additon to the transmission of rabies, where the dog is universally acknowledged to be the most common offender, he has been known to carry intestinal parasites, fleas, lice, ticks, itch mites, ring worm, tuberculosis, diphtheria, scarlet fever and whooping cough.

Why, these authors ask, should all the human members of a family, where diphtheria or scarlatina is present, be carefully quarantined, while the family dog is permitted to run loose about the community?

THE TREATMENT OF HUMAN ANTHRAX

In the *Semana Medica*, of Buenos Aires, for January 28, 1926, Doctors F. Destefano and R. F. Yaccarezza report on 414 cases of anthrax in the human subject treated with anti-anthrax serum, normal serum, and injections of peptone. Their conclusions are as follows:

"I. Injections of peptone have given better results than those obtained with anti-anthrax serum or with normal bovine serum.

2. The total mortality has been 10.93 percent for 192 cases treated exclusively with peptone; 15.85 percent for 82 cases treated exclusively with anti-anthrax serum; and 29.41 percent for the seven cases treated exclusively with normal bovine serum.

3. If we discard those cases where death occurred within 24 hours after treatment was started (fulminating cases), the percentage of deaths descend to 9.04 for the peptone, 10.38 for the anti-anthrax serum; and 25 percent for normal bovine serum.

4. Computing all observations that we have made with these products, used exclusively or associated, we have the total mortality of 12.85 percent of the 280 cases treated with peptone; 19.14 percent for the 141 cases treated with anti-anthrax serum; with anthrax septicemia were cured with normal bovine serum.

5. The fulminating deaths in the anterior observations were 9.29 percent for those treated with peptone; 12.97 percent for the anti-anthrax serum; and 18.75 percent for normal bovine serum.

6. Twenty-six cases of cutaneous anthrax with anthrax septicemia were cured with peptone injections.

7. From the results we have obtained in the treatment of human anthrax, we should select the intramuscular injections of peptone. This treatment has proven more efficient than specific sero-therapy or normal serum, and has the advantage of not producing serious accidents."

The solution used by the doctors in Argentina is as follows:—Peptone (Witte), 5 Grams; Chloride of Sodium, 0.5 Grams; sterile distilled water, 100 Grams.

In their earlier tests they used 10 cc. at a dose, but later the doses were increased to as high as 30 cc., and this was the dose utilized finally in nearly all the cases. Injections are made once or twice daily until results are shown.

They state that Nols, in his original work, used peptone solution intravenously but, in the Argentine cases, violent reactions occurred. If the peptone solution is used intravenously it should be administered very slowly.

N. S. M.

WASSERMANN-FAST SYPHILITICS TREATED WITH BISMUTH

When a patient has had one or more courses of arsphenamine, with a clearing up of his symptoms but no change in his Wassermann reaction he is called Wasserman-fast.

McCafferty and MacGregor, in the *A. J. Med. Sc.* for July, 1925, reports 25 such cases in which bismuth was used, a course consisting of two intramuscular injections per week to a total of 16 injections.

After the first course 11 patients (44 percent) showed a negative Wasserman test; after three full courses 64.7 percent showed negative tests, showing that bismuth is of distinct value in these cases.

Four cases showed faint traces of albumin in the urine during treatment and one had a cutaneous eruption, which cleared up on withdrawal of the treatment. These symptoms were insignificant.

GLUCOSE

An editorial in the *J. A. M. A.* for February 27, 1926, calls attention to the high food value and sweetening power of the monosaccharide sugars, dextrose and levulose, the former being known as glucose, or corn syrup.

If cane sugar is given a sweetening value of 100, glucose has a value of 74 and levulose or fructose of 173. Both of these substances are made by the hydrolysis of starch.

Many people have a prejudice against the use of glucose, as being a "synthetic food," made with "chemicals." The fact is that these artificial sugars possess a high nutritive value and are perfectly wholesome, so that foods containing them should not be regarded as being adulterated.

Wherever this mistaken idea is encountered it should be corrected, for these sugars bid fair to become rivals of cane sugar on economics, dietetic and physiological grounds.

TRICHINOSIS

Most physicians have the idea that trichinosis is a decidedly rare condition, but Dr. Wm. L. Bettison, of Ann Arbor, feels that this may be merely because many of the milder cases of this infestation are unrecognized.

In the *J. A. M. A.* for February 27, 1926, he reports four cases which occurred in students of the University of Michigan who ate underdone pork at the same restaurant while attending a football game in another city. Three of these patients were not seriously ill.

In diagnosing these cases the male worms may sometimes be found in the stools, and the embryos are frequently present in the blood. The main diagnostic features are the gastrointestinal symptoms which occur in the period of invasion; the general muscle soreness of the second period (9th to 15th day), affecting chiefly the biceps and gastrocnemius muscles; the swelling of the eyelids; and a high eosinophilia (15 to 80 percent), with a leucocytosis of 15,000 to 30,000.

There is no known method for killing the parasites, and the medical treatment is, in general, decidedly unsatisfactory.

Prophylaxis is the only dependable measure. This consists in the thorough cooking of all pork, whether fresh or cured. Every part of the meat must be heated to a temperature of 137° F. (58.3° C.) and, in order to accomplish this, pieces of pork of any size should be cooked for two and a half to three and a half hours.

If this infestation is borne in mind and careful investigation made, many more cases may be discovered.

PRECANCEROUS CONDITIONS ABOUT THE RECTUM

In the *M. J. & Rec.*, of New York, for February 4, 1926, Dr. Arthur A. Landsman, of New York, discusses the pathological conditions around the rectum which may lead to cancer or cause a suspicion of early malignancy in the mind of the physician.

He suggests that carcinoma does not arise from normal tissue and that the prompt correction of precancerous conditions may frequently prevent malignant changes, and sums up the suspicious findings as follows:

1.—Any indolent sore, erosion, crack, fissure, ulcer or wound which, in the absence of unfavorable constitutional conditions, fails to heal within a reasonable time should be looked upon with suspicion. This is especially true when it occurs at the rectosigmoid or mucocutaneous junction, at the base of one of the valves, the point of attachment of supposedly innocent growths, about folds and situations where there is an abrupt change of structure, or locations where it is exposed to repeated bruising.

2.—Benign neoplasms which are soft, highly pigmented, multiply in great numbers, grow rapidly, extend steadily, recur after removal, have a tendency to grow on a broad base rather than an elongated pedicle, must be regarded as potentially malignant.

3.—Any long-standing irritative disease or process about the rectum, such as fistula, diverticulitis, the skin changes which follow chronic anal pruritus, perianal dermatitis or eczema, leucoplasia, stricture and prolapsed rectum may in time acquire malignant characters.

4.—Inflammatory lesions due to syphilis or tuberculosis may have carcinoma engrafted upon them. As early as 1872 Hutchinson recognized that certain syphilitic lesions of the mouth were precancerous.

5.—Malformations and congenital tumors may occasionally, though rarely, become malignant.

REPAIR OF HEART WOUND UNDER LOCAL ANESTHESIA

In the *Illinois M. J.* for November, 1925, Meyer and Brams, of Chicago, report a very unusual case of a gunshot wound of the heart, with surgical repair under local anesthesia.

The projectile entered the body near the umbilicus, passed upward through the diaphragm and lodged in the posterior wall of the left ventricle.

The operation, including removal of five inches of the fifth rib, removal of the projectile, suture of the pericardium and an exploratory incision into the upper abdomen, was done under local anesthesia without observable shock.

The patient made an uneventful and apparently complete recovery and was discharged 15 days after operation.

THE NERVOUS PATIENT AND THE GENERAL PRACTITIONER

Every physician sees many cases who are definitely and undoubtedly very ill, but in whom no organic abnormality can be found after the most careful search.

In the *Illinois M. J.* for February, 1926, Dr. Meyer Solomon, of Chicago, warns us against turning these patients away, with the statement that there is nothing wrong with them. There *is* something radically wrong and if we do not help them they will turn to the quacks and the irregulars.

Do not diagnose functional conditions until organic conditions have been fully excluded, but when you are sure that you are dealing with a functional neurosis you may do one of two things: If you have the time, patience, temperament and training to gain the patient's confidence and then look into his psychic processes and teach and help him to reorganize his mode of life and his philosophy, this is what must be done; if you have not these qualifications he should be referred to a competent psychotherapist.

Dr. Solomon reports a number of interesting cases and, in commenting upon them, reminds us that such patients cannot be hurried but must be gradually led to unbosom themselves and then instructed in the methods for regaining their equilibrium.

In the early stages of the case hypnotics, hydrotherapy, rest, massage, exercise and other therapeutic measures must frequently be employed to regulate and normalize physical conditions as much as possible, but if a cure is to be obtained it must come from the inside of the man himself.

STUDY THERAPEUTICS

Dr. Hans Lisser (*Northwest Med.*, October, 1925, xxiv, p. 503) recently made the following statements before the California Association of Physiotherapists: "It is well to remind ourselves occasionally that the first duty and privilege of every practicing physician is to relieve suffering. It should be our earnest endeavor always 'to make the patient feel better,' if it is within our power to do so, and quite irrespective of whether this alleviation of symptoms results in a cure of the underlying disease or not. The patient seeks the physician in order to receive treatment that will result in his feeling better; he is only secondarily interested in what is the matter with him.

"It is, of course, axiomatic that intelligent treatment must be predicated on accurate diagnosis. The trouble with many of us is that we practice scientific diagnosis most elaborately, with all manner of impressive tests and appliances (many of which, by the way, are quite unnecessary for the case at hand), but a similar elaborate attack on the disease so gloriously labeled is frequently spurned or ignored because, forsooth, the therapy is not sufficiently and scientifically specific to satisfy our critical taste in therapeutics. We do not make the mistake of placing the cart before the horse, but the diagnostic horse too often trots off proudly, head erect, trailing an empty treatment cart behind. The tidal wave of therapeutic nihilism and lofty skepticism that has swept over the medical profession during the last half century may have cleaned out much rubbish, but it has left precious little in which we can retain scientific confidence, so that many of the most learned and highly educated among us are hardly fit to practice the healing art."

The Endocrine Survey, February, 1926.

DIAGNOSIS IN KIDNEY DISEASE

Recognizing the fact that, in cases of kidney lesions, the symptoms are abdominal in type, Drs. W. F. Martin and W. G. Chynoweth, of Battle Creek, Mich., have discussed the differential diagnosis of such cases in a very practical manner in the *J. Mich. State M. S.* for September, 1925.

They sum up the facts as follows:

"It is evident that all diseases of the kidneys may present symptoms that are misleading. In fact, our records indicate that, even where the kidneys are actually involved, the symptoms more frequently point to intraperitoneal lesions than to the kidney itself. On the contrary, the majority of

cases presenting the symptom of pain in the back, which is almost invariably supposed by the patient to mean kidney trouble, are not cases of renal disease, the pains being more often those of osteoarthritis, or reflexes from pelvic or colon disorders. Again, there are intraperitoneal lesions the pains of which are referred to the kidney.

"It should be remembered that the greatest number of mistakes are made in cases of ureteral stricture and of hydronephrosis. In these types of cases the symptoms are frequently referred, the urine and x-ray findings are often negative, and our only means of a positive diagnosis is by cystoscopic methods. The symptoms in these cases may be urgent, but the patient's condition is not critical, and no additional hazard is incurred by waiting for the special data to be obtained by a cystoscopic examination.

The mission of this paper, therefore, is to urge a more intimate relation of the internist and the general surgeon with the urologist, and to advise that the information which is available only by urological methods be secured:

(a) In every case of obscure abdominal pain not otherwise positively explained.

(b) In all cases with a history of hematuria.

(c) In every case where blood, pus, or albumen is found in the urine.

(d) In all cases of doubtful abdominal tumors.

"If this is done, the kidney will be taken from its hidden position behind the peritoneum and brought out into the 'lime light' as its record of disease demands, and the practical result will be a notable lessening of many patients' years of pain and in the number of fruitless operations."

INSULIN BY MOUTH

In the *Acta. Med. Scandanavica* (1925, LXI, p. 294), referred to in *Med. Sc. Abst. & Rev.* for September, 1925, E. Gjerty reports a series of clinical experiments which again demonstrated the prompt and positive effects of injections of insulin upon the blood-sugar of diabetics, and also demonstrated that a slower and less pronounced but very definite effect is produced by the oral administration of insulin in olive oil.

For cases of diabetic coma and other urgent conditions this substance must still be given subcutaneously, but in milder cases where its use is indicated but where immediate action is not necessary, the oral route offers what appears to be a satisfactory solution of the distressing problem of frequent injections over a considerable period of time.

OIL OF BITTER ORANGE PEEL WITH ETHER ANESTHESIA

In the *Illinois Med. Jour.*, for July, 1925, Weiss discusses a method for the relief of much of the nausea, vomiting and tympanites which frequently follow ether anesthesia.

By dropping oil of bitter orange peel on the mask with the ether, and continuing the dropping of the oil for 2 or 3 minutes after the ether has been stopped, she has found that anesthesia is induced more smoothly, promptly and quietly than when ether alone is given. The important point, however, is that the patient awakes from the anesthetic comfortable and quiet, rarely vomits, is scarcely nauseated and has gas-pains which are negligible.

In 400 cases she used this method, with gratifying results on about 200 cases, while the other 200 showed the usual distressing postanesthetic symptoms.

This should not be used in tonsillectomy cases, where the vomiting of swallowed blood is beneficial.

INTRAPERITONEAL INJECTION OF NEOARSPHENAMINE

Cases of congenital syphilis in young infants frequently present conditions calling for immediate active treatment, but the veins in these little patients are often so small that intravenous injections are difficult or almost impossible. In such cases Dr. Heyworth N. Sanford, of New Haven, Conn., gives neoarsphenamine intraperitoneally.

In the *J. A. M. A.* for July 25, 1925, he gives the results of his experiments on animals, demonstrating the relative safety of this procedure and reports a number of clinical cases.

He washes the entire abdomen with green soap and water, followed by alcohol; paints a spot over the middle of the left rectus sheath, slightly below the navel, with iodine; inserts a rather small-guage needle in the usual manner; and injects—in an ordinary 10-pound infant—5 cc. of a solution made by dissolving 150 mgm. of neoarsphenamine in 15 cc. of warm, sterile water. The injection is made slowly by letting the piston fall of its own weight. The results reported are very satisfactory.

New Books

ADAM: ASTHMA

ASTHMA AND ITS RADICAL TREATMENT. *By James Adam, M.A., M.D., C.M., F.R. C.P. & S. (Glas.). Second Edition, Revised and Enlarged. St. Louis: C. V. Mosby Co.* 1926. *Price* $3.50.

The first edition of Dr. Adam's book on Asthma was published in 1913 and the view put forward in the edition that asthma is a toxemia, was based on an experience with 200 cases. Since that time 650 more cases have been studied and the experience gained has corroborated the conclusions at which Dr. Adam originally arrived. Moreover, the publication of a second edition was stimulated by the writings of two Chicago physicians, Haseltine and La Forge, who had come to conclusions similar to those of Dr. Adam. Few who have had much experience with asthma will now deny that the toxemia view if correct, the truth of the view having been proved by successful results, which Dr. Adam holds are the only satisfactory proof.

In the second edition the book has been largely rewritten but does not exceed 225 pages in length, hence can be read in an evening by any one at least half way familiar with the subject. Owing to the pleasing literary style, it is sufficiently entertaining to hold well the mind of the reader to the thesis in question, all the way through.

This second edition consists of an introductory chapter, which stands almost unaltered from the first edition, and thirteen other chapters, namely: the acute attack, chronic asthma and allied disorders, periodicity, asthma in animals, blood and urine, heredity, the nose in relation to asthma, hay fever, anaphylaxis, etiology, physiology and pathology, prognosis and diagnosis, and treatment. There are two appendices; one on diet and the other containing reprints of the articles by American authors on the treatment of asthma.

In his Index of Authors we find references to 120 writers, those most often quoted being Bayless, Berkart, Besredka, Brodie, Coke, H. H. Dale, Dixon, Haseltine, La Forge, Lumière, Salter and H. Gideon Wells.

The main points of the book are as follows: Asthma is primarily a toxemia. This toxemia arises partly in the bowel, partly in the tissues; it arises partly by absorption of nitrogenous poisons resulting from intestinal putrefaction under microbic action; but mainly is due to an error in nitrogenous metabolism the result of imperfect oxidation or enzyme action. In short, the poison arises from protein food or protein tissue.

The error in protein metabolism is closely connected with excess of carbohydrate in the diet.

The toxemia, whether arising in bowel or tissues or both, tends to show itself, first as catarrh, later as spasm, in the respiratory tract. This toxemia also shows itself in conditions, catarrhal and spasmodic, other than but closely related to asthma.

An attack of asthma, he describes, as that form of dyspnea which comes on more or less suddenly, usually in the small hours of the morning, without obvious cause and which passes off more or less suddenly without obvious lesion remaining.

Asthmatics, as a rule, have low blood pressure and are long lived. Abnormal skin conditions are common in asthma, especially eczema.

Adam lays much stress on recurrent bronchitis. The growth of carbohydrate, hot-house bronchitis, in children, into typical asthma, or of the combination of such bronchitis with eczema, in the children of asthmatics, is so obvious that any clinician with open eyes should manage his cases accordingly.

First we find the catarrhal condition and then the spasmodic in both adults and children who are coddled and over-fed on carbohydrates.

Periodicity is one of the most striking features of asthma. Anaphylaxis does not explain periodicity but toxemia does. Periodicity is nocturnal and week-end. There is also, in asthma, a menstrual periodicity and pregnancy affects the attacks. Normal pregnant women are immune to asthma but toxemia in pregnancy may lead to asthma.

In the etiology of asthma Adam finds it a disease of the first quarter of life in over half the cases; with manifest dietetic error in 90 percent of the cases and nasal lesion in about 70 percent.

The blood and urine point to acidosis (decrease of urea in blood and urine; increase of ammonia in urine; and eosinophilia).

About 66 percent of all asthmatics can be cured and the other 23 percent measurably improved by treatment directed against toxemia. Phthisis and pneumonia are intimately connected with asthma, 20 percent of deaths among Adam's asthmatics being due to pneumonia.

The chapter on treatment leaves nothing to the imagination. Success demands all-round investigation and Adam commends the American plan of team work systematically followed. He gives a carefully detailed plan for the examination of asthmatics and for obtaining the history of the attacks.

The chapter on treatment is supplemented by nearly 10 pages of instructions as to diet also accurately and carefully detailed.

As to his chapter on urine it confirms several of our own findings especially with reference to urine nitrogen and ethereal sulphates (indican). His surprise at not finding sugar more often would, perhaps, not be so great were he familiar with our own

work in testing the reducing power of the urine measured by the time necessary to affect Benedict's solution at the boiling point. Toxemia increases urine reducing power, whether or not sugar is increased in the blood.

Dr. Adam's book is made—and well-made—in Great Britian. Its leaves, like those of the English digitalis, can not be matched in America. The type is plain, and the typography excellent. If we were as successful in managing printers as is Dr. Adam, we would write a book entitled "Compositors and their Radical Treatment."

CLIFFORD MITCHELL.

LUCKIESH AND PACINI: LIGHT AND HEALTH

LIGHT AND HEALTH; A Discussion of Light and Other Radiations In Relation To Life and To Health. *By M. Luckiesh and A. J. Pacini. Illustrated. Baltimore: Williams & Wilkins Company.* 1926. *Price* $5.00.

The authors of this work have devoted much time to the study of light and other forms of radiant energy and have collected a large amount of interesting and valuable material into one volume.

The physical, physiological and chemical effects of sunlight upon the various organs and structures of the body are discussed with a good deal of detail, as well as the hygienic and sanitary powers and properties of this universal energizer.

There are chapters on the effects of light upon the senses; its psychological effects; and the part it plays in human health and happiness.

The book is well and interestingly written and should have a popular appeal as well as that to the profession. It offers a sound basis for further and more technical studies in heliotherapy.

SIMMONS AND FISHBEIN: MEDICAL WRITING

THE ART AND PRACTICE OF MEDICAL WRITING. *By George H. Simmons, M.D., Editor and General Manager Emeritus, A. M. A. and Morris Fishbein, M.D., Editor, J. A. M. A. 535 North Dearborn St., Chicago: Press of American Medical Association.* 1925. *Price* $1.50.

Every physician ought to be a medical writer, for several reasons: (1) it is the only ethical way which he can make himself known outside of his community; (2) it is the only way in which he can add the results of his experience and studies to the general store of medical information, for the benefit of all members of the profession; (3) it is one of the best and surest ways of enlarging his knowledge and clarifying his ideas; and (4) it stimulates him to the keeping of accurate clinical records, to his own great profit as well as that of his patients.

Medical authorship is no sinecure. There are men who simply sit down and "dash off" an article on the spur of the moment. If they send it to a high-grade medical journal it frequently dashes right back to them again. Medical editors are a long-suffering crowd and will make herculean efforts to bring a nascent idea to birth, but they enjoy receiving clean and accurate manuscripts.

There are several treatises on the writing of medical articles, but none that we have seen is so clear, terse and comprehensive. The style, too, is such that it makes easy and interesting reading.

All phases of the subject are adequately discussed — subject matter, style, titles, spelling, abbreviations, bibliographies and, in fact, everything that a medical writer needs to know about how to produce an acceptable manuscript.

The book is well made; printed clearly on good paper; bound in an attractive, flexible cloth binding; illustrated, where illustrations will help; and adequately indexed.

If we could persuade every physician who reads this to buy a copy of this book, study it carefully and put its precepts into practice we should have performed a large service to the individuals and to the science and art of medicine, in general.

EYCLESHYMER AND JONES: CLINICAL ANATOMY

HAND-ATLAS OF CLINICAL ANATOMY. *By A. C. Eycleshymer, B.S., Ph.D., M.D., and Tom Jones, B.F.A. Illustrated. Philadelphia: Lea & Febiger.* 1925. *Price* $11.00.

A review of this volume would have appeared earlier, were it not for the fact that the writer was becoming more and more intimate with its contents. Each day, in other words, many books pass over his desk, but only a few linger there to be consulted constantly. The Hand-Atlas of Clinical Anatomy is so complete and gives desired information so readily, that it will never be permitted to reach "cold storage" of the main library shelves. It will take its place with the United States Dispensatory, the Medical Dictionary, and certain other essential works of reference, on the top of the writer's desk and every practitioner, regardless of the extent of his initial anatomical knowledge, would benefit by adopting the same procedure. The authors state that their object was to present, in a small easily handled volume, human anatomy, as it is directly related to the needs of the surgeon, general practitioner and student. They not only attained their goal, but were sapient enough to exclude descriptive text, substituting therefor a most complete explanatory index, which will be found invaluable.

G. H. C.

MORSE: APPLIED BIOCHEMISTRY

APPLIED BIOCHEMISTRY. *By Withrow Morse, Ph.D., Professor of Physiological Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Octavo of 958 pages, with 257 illustrations. Philadelphia and London: W. B. Saunders Company,* 1925. *Cloth* $7.00 *net.*

Biochemistry is a new science which has just recently come into its own. It has re-

ceived a great deal of attention during the last ten years and the results have more than justified the time and energy expended upon it. The advance in our knowledge of nutrition, the thorough study of vitamines, the successful development of the use of hormones, such as epinephrine, insulin, etc., and the promise of equally important discoveries just over the horizon, make the subject of biochemistry increasingly important to everyone who has connection with the medical sciences.

The present volume by Morse is a welcome addition to the list of texts available for the student of this subject. The volume not only gives careful consideration to the usual subjects and principles involved in the study of physiological chemistry, but also gives succinct descriptions of the various tools and methods of the biochemist, such as the colorimetric and electrimetric determination of hydrogen ion concentration, the standarization of apparatus and reagents, etc. Many excellent illustrations of equipment and apparatus are given; particularly happy is the idea of reproducing photographs of a number of the outstanding workers in America in the field of biochemistry. At the end of the book is an excellent appendix which contains much information, useful to the worker in this, or related fields.

Morse's treatise can be recommended for the daily or occasional use of the physician, chemist or physiologist.

E. H. V.

VAN DER LEEUW: CREATIVE ENTHUSIASM

THE FIRE OF CREATION. *By the Rev. J. J. van der Leeuw, LL.D. Chicago: The Theosophical Press, 826 Oakdale Ave.* 1926. *Price* $2.00..

Whether we realize it or not we have seen and are seeing the dawning of a new world-ideal. Twenty years ago one could read for months and see no word regarding the union of men or nations into a common brotherhood. Today, however far we may be from the *fact*, it is certainly a matter of common and widespread discussion.

A generation or two ago if a man or a group of men set about the reformation of any condition which they deemed wrong they did so in the name of religion. Now the reformer looks at the *problem itself* and trusts to his enthusiasm and the outcome to give his work such sanction as it needs.

In the foreword to this volume, C. Jinarajadasa says, "The world has more religion than it needs and more science than it can assimilate; one thing alone is lacking, the fire of enthusiasm."

Here, then, is a discussion of the divine Creative Energy which has brought forth this universe and maintains it in being; and if it is couched in the familiar terms used in the orthodox churches of today, that seems to be because the ideas will be more readily understood by people familiar with the ordinary Christian nomenclature.

Such chapter headings as "The Fire of Creation," "The Rhythm of Life," "The Dynamic Universe," "The Way of the Higher Mind" and "Inspiration" are found, and while the discussion has a decidedly metaphysical trend there are many points of practical value.

There are a number of interesting points regarding the new relation between the sexes which is obviously developing, for we see man ceasing to be the master and woman the slave, and the two, without losing anything of force of their essentially masculine and feminine qualities, meeting on a high ground of mutual respect, helpfulness and comradeship, as well as mutual love.

To those who are not distracted by the religious terminology nor confused by some of the metaphysical concepts, this book will offer a wealth of material for thought and will well repay several readings to get at its underlying truths.

KOPELOFF: LACTOBACILLUS ACIDOPHILUS

LACTOBACILLUS ACIDOPHILUS. *By Nicholas Kopeloff, Ph.D. Baltimore: The Williams and Wilkins Company.* 1926. *Price* $5.00.

Now that L. Acidophilus milk is being recommended and sold quite extensively, this book, which shows the merits as well as the limitations of such milk, is very timely.

The author gives conclusive proof that L. Acidophilus has therapeutic value and that it can be implanted in the intestinal tract, differing from L. Bulgaricus in this respect. The author states, however, "Striking as the results are, L. Acidophilus is no panacea for all ills, nor is there any guarantee that it will prolong life to the extent that Metchnikoff hoped."

The book would be of value to the practicing physician, the medical student, dairy bacteriologist and dairyman.

In the appendix are included instructions which will enable the bacteriologist, not already familiar with the procedure, to make L. Acidolphilus milk in the laboratory or on a commercial scale and maintain the pure culture.

F. J. H.

LANDIS: BEYOND PSYCHOANALYSIS

PSYCHOANALYSIS AND BEYOND PSYCHOANALYSIS. *By Leonard L. Landis, M.D. Formerly: Assistant Clinical Instructor at Post-Graduate Hospital and the University of New York Internal Medicine Department; Attached to the Outdoor Departments Bellevue, Demilt and Mt. Sinai Hospitals; Assistant Lecturer at the Polyclinic; etc. American Association of Independent Physicians.* 1926.

Serious students, today—except, of course, some of his ardent disciples—are coming to the conclusion that many of Freud's conclusions were based upon unsound premises. There is, however, no question that his work has opened up vastly interesting and profitable lines of thought and investigation. Where are such paths likely to lead us?

In a pleasingly fearless and reasonably conservative spirit, Dr. Landis has set out to follow these fascinating thought-paths to see if, perchance, we might be able to catch a glimpse of the ultimate goal, or even some of the way-stations. He feels that he has proceeded further along this road than most, and we agree with him.

He begins by stating his point of view in a brief introduction and then proceeds to what appears to be a well-considered analysis of the methods, pronouncements and work of Freud, Adler and Jung. As he goes along he notes his own opinions and experiences along the lines being considered, and his language is sane and reasonable; his logic sound.

Having laid a foundation with the analysis of the various views on psychoanalysis and their wide-spreading connotations, Landis then strikes out boldly into the field of his own studies and observations and his conclusions upon these, calling this new field of study and observation, Psycho-Cosmology.

He states that Psycho-Cosmology does not profess to reveal the nature of truth, but that it does offer a conception of the *way* to truth; and he opines that the important thing, at present, is to leave no possible hypothesis untried or unchallenged in our search for truth.

Numerous references are made to the profound and sometimes esoteric reasoning of the Russian Mathematician and philosopher, D. P. Ouspensky and the logical steps by which he has demonstrated that time is the fourth dimension.

He works out the dynamic urge or push which appears to be behind the whole process of evolution and sets forth his reasons for believing that the same sort of push will result in the development of other senses in addition to the five which we now possess, by means of which we will be able to perceive many things now hidden from us—such as mechanism of the emotions and thoughts—and be able, after a time, to function freely in four dimensions instead of three.

Many people will find themselves unwilling or unable to accept all or most of Dr. Landis' propositions, but, in these days of rapid progress in the study of the functions of the emotions and the mental processes, and of the wide discussion of problems which lie upon the borders of the superphysical or in the domain of pure metaphysics, no man can consider himself truly well-informed who has not given these matters some study and consideration.

For the person who is just embarking upon such studies, especially if he has a fairly clear conception of the fundamentals of physics, astronomy and, particularly, of the new ideas in the field of psychology, this book is to be highly recommended, for, whatever may be the vagaries of Dr. Landis in the domain of medical ethics, there is no doubt that he is a keen and original thinker, and this book gives evidence of the fact that his studies have been deep and very catholic in their scope.

It is sincerely believed that no man can read this book without having his thought processes stimulated, and that anyone who will buy and *read* it will have made a wise and profitable investment of his time and money.

SPIELMANN: ANDREAS VESALIUS

THE ICONOGRAPHY OF ANDREAS VESALIUS; (André Vésale), Anatomist and Physician, 1514-1564. Wellcome Historical Medical Museum Research Studies in Medical History No. 3. *By M. H. Spielmann, F.S.A. Paintings, Pictures, Engravings, Illustrations, Sculpture, Medals. With Notes, Critical Literary, and Bibliographical. London: John Bale, Sons & Danielsson, Ltd.*, 83-91, *Great Titchfield Street, W.* 1. 1925. *Price* 30s/—.

Andreas Vesalius, the "Father of Anatomy," is too little known to the members of the profession for which he did so much.

In this book an attempt is made to render him more *real* to the present generation by collecting all the portraits of him which could be found, as well as all the contemporary and other pictures dealing with his life and work. Each picture is fully and carefully described.

The book is excellently gotten up; printed from large, clear type, on good paper; and the illustrations leave nothing to be desired.

A mine of information for the admirers of this great Belgian anatomist, and also for all students of medical history and biography and those who are interested in the pictorial art of the 16th century.

DIATHERMY

DIATHERMY, THEORY AND PRACTICE. *Revised Edition. A pamphlet published by the Educational Department of H. G. Fischer & Co., Inc.* (2333 *Wabansia Ave.*), *Chicago. Free upon request to readers of Clinical Medicine.*

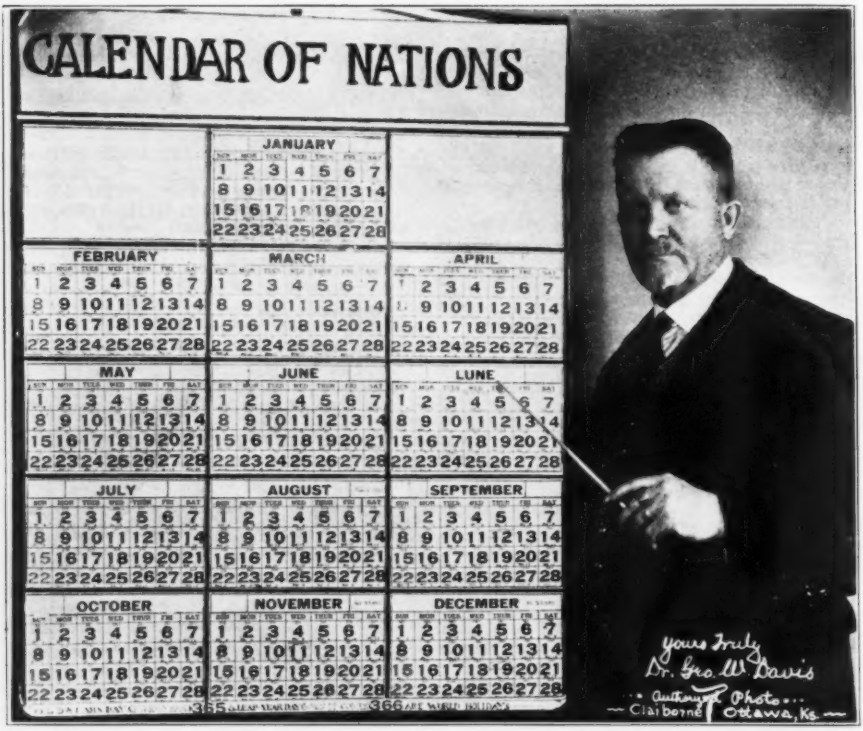
REDUCTION OF INFANT MORTALITY BY MEANS OF ANTI-ALFA VACCINE

Reducción de la Mortalidad Infantil por Medio de la Vacuna Anti-Alfa. Por J. Ferrán con la Colaboración de Juan F. Vacarezza. Instituto Ferrán de Higiene y Patología Experimental. Barcelona. 1922. (A pamphlet.)

UMBER: STOFFWECHSELKRANKHEITEN

ERNAHRUNG UND STOFFWECHSELKRANKHEITEN. *Von Dr. Friedrich Umber; Dritte, völlig neuarbeitete Auflage mitt einem Anhang über die Methodik der stoffwechseluntersuchungen von Dr. Max Rosenberg. Berlin: Urban & Schwartzenberg.* 1926.

Medical News



PHYSICIAN DEVISES A NEW CALENDAR

In view of the fact that the calendar which we now use was devised by an Italian physician, Aloysius Lilius, in 1581, it is interesting to note that what appears to be a very practical rearrangement of our days, in the form of a new calendar, has been worked out by another physician, Dr. Geo. W. Davis, of Ottawa, Kans.

Dr. Davis, whose picture is here shown with his new calendar, has submitted his idea to the Calendar Reform Committee of the League of Nations and it is being very seriously considered.

Note the proposed new month, "Lune," between June and July. Each week, month and year would begin on Sunday and end on Saturday. There would be one intercalary day, to be known as "Old Year Day," every year, and a second such day every 4 years, to be called "Leap Year Day."

CHILD HEALTH DAY

The American Child Health Association has set aside May Day as Child Health Day.

Every physician who has the welfare of our little ones at heart (and that should be *every* physician!) should do all in his power to cooperate in this movement.

Write to the Association at 370 Seventh Ave., New York City, for information as to how you can help.

GOOD BOOKS AT A SMALL PRICE

The Chemical Foundation, 85 Beaver St., New York City, is doing a real favor to the country in offering good books for less than the cost of production. They will send you a "Life of Pasteur," Slosson's "Creative Chemistry," "The Riddle of the Rhine" (about gas warfare), "Discovery; The Spirit and Service of Science" and "Ameri-

can Medicine in the Age of Chemistry," all for $2.50. You can also get the two volumes of "Chemistry in Industry" for $1.00 each.

CIVIL SERVICE EXAMINATIONS

Applications for appointment in the various grades of medical officers will be rated as received until June 30, 1926. Salaries range from $1860 to $6000 per year, with various allowances in some cases.

Appointments will be made in the Indian Service, Public Health Service, Coast and Geodetic Survey, Panama Canal Service and the Veterans' Bureau.

Application for appointment as graduate nurse—salary $1,500 to $2,040 per year—will be received until June 30, 1926.

Applications for appointment as Dietitian—salary $1,020 to $1,800 per year, with board, room and laundry; as Occupational Therapy Aide and Pupil Aide—salary $1,140 to $2,040 per year; and as Medical Interne (psychiatric)—salary $1,860 per year—will be received until June 30, 1926.

Full information may be obtained by addressing the U. S. Civil Service Commission, Washington, D. C.

Copyright: Keystone View Co.

FRESH AIR WITH A VENGEANCE

We all know the value of fresh air and sunlight in the treatment of tuberculosis, but few of us would have the courage to carry it so far as they do at the J. N. Adam Memorial Hospital, Perrysbury, N. Y., where the tuberculous children play naked in the snow as hardily as the aboriginal inhabitants of this country .

Copyright: Underwood & Underwood

NEW ASSISTANT SURGEON GENERAL OF THE ARMY

Brigadier General James M. Kennedy (familiarly known, in the Service, as "Big Jim") who has just been named Assistant Surgeon General of the Army, with the rank of Brigadier General, to succeed Gen. James D. Glennan, who was retired, at age 64, on March 2, 1926.

Gen. Kennedy, who has, for some time, been commandant of the Letterman General Hospital, at San Francisco, has relieved Gen. Glennan in command of Walter Reed Hospital, Washington, D. C.

THE FIRST SCHOOL OF STOMATOLOGY IN AMERICA

The establishment of the first school of stomatology in America, The Post-Graduate Medical School of Stomatology, chartered by

the University of the State of New York, which will function under the auspices of the American Stomatological Association, marks an epoch in the progress of stomatology in the United States.

The purpose of the school is to give to graduated and duly licensed physicians and dentists an opportunity to obtain systematic instruction in stomatology in the United States—the same instruction that is afforded medical practitioners and stomatologists in the European Stomatological Schools.

STOMATOLOGICAL MEETING

The annual convention of the American Stomatological Association will be held at the New York Academy of Medicine, 17 West 43rd St., New York City, April 5, 6 and 7, 1926. The program looks interesting.

JOURNAL CHANGES NAME

The *American Journal of Electrotherapeutics and Radiology* has changed its name to *Physical Therapeutics*, which is less cumbersome and easier to remember and say. There will be no change in the character or policy of the publication.

QUICK WORK BY GOVERNMENT INSURANCE OFFICIALS

The Veteran's Bureau recently made full payment on a converted "War Risk" insurance policy within 24 hours of the death of the insured. There could have been no tangling of red tape in this case.

AN AUTO TRIP THROUGH EUROPE

It is reported that there is still room in Europe to park your car, and the European Auto Travel Bureau can help if you plan making a trip like that. Dr. V. Heber Sergeant is connected with the Bureau, so he ought to be able to give good advice to other doctors. His address is, Box 211, Back Bay Post Office, Boston, Mass.

PAMPHLET INSTRUCTION REDUCES VENEREAL DISEASE CASES

The practical value of giving young men information regarding the venereal diseases is attested by word received by the United States Public Health Service from one of the recruiting agencies of the United States Shipping Board. Some time ago, the Public Health Service supplied the Recruiting Service of the Shipping Board with pamphlets suitable for distribution to young men. These were given out to the men of the crews on vessels operating to the Orient and the results have been designated as "far reaching." Physicians attached to passenger vessels report that the distribution of these pamphlets among the crews had the effect of very considerably reducing the number of venereal disease cases.

STAIN TECHNOLOGY

Bacteriologists and those who are concerned in any way with biological stains will be interested to see the new journal, *Stain Technology*, whose first number appeared in January, 1926. The address is Agr. Exp. Station, Geneva, N. Y.

SMALLPOX

In January there were "about 45 cases" of smallpox in Miami, Florida, so the papers say, and in Los Angeles, Cal., there were 177 cases, with 18 deaths. Maybe your town will be next. Vaccination prevents this disease.

DEATH OF DR. ALBRIGHT

Dr. Jacob D. Albright, who was well known to many readers of CLINICAL MEDICINE in connection with his work in proctology, died suddenly, from heart failure, at his home in Philadelphia, on February 12, 1926.

DOCTORS NEEDED IN CONGRESS

The National House of Representatives consists, to the extent of more than fifty percent of lawyers, and though doctors are nearer to the people than almost any other class of men, there are only six in Congress.

Dr. P. J. H. Farrell, Colonel, Medical Reserve Corps, of Chicago, is running for Congress, from the ninth Illinois district. He is well qualified and every physician in his district should support him. Also, more physicians should take a hand in the business of Government.

Send for This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE will gladly **forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our** readers may use these numbers and simply send requests to this magazine. Our aim is **to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.**

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

B- 41 Specific Urethritis. 16-page booklet. Riedel & Co.

B- 58 A Symposium on Yeast. 24-page booklet. The Fleischman Co.

B- 71 Goiter Special. 4-page folder. Columbus Pharmacal Co.

B- 80 Allonal. The non-narcotic Hypnotic and Analgesic. 8-page booklet. Hoffman-LaRoche Chemical Co.

B- 83 Yatren-Casein in Non-Specific Protein Therapy. 4-page folder. Ernst Bischoff Co.

B-104 Petrolagar (Deshell). What it is. 8-page booklet. Deshell Laboratories.

B-156 Facts Worth While Concerning Free Iodine Therapy. 8-page booklet. Burnham Soluble Iodine Co.

B-227 The Doctor's Factotum. Arlington Chemical Company.

B-239 The Treatment of Sexual Impotence. 16-page booklet. Astor Chemical Corp.

B-242 The Endermic Treatment of Febrile Conditions. 24-page booklet. Pneumo-Phthysine Chemical Co.

B-255 Lunosol, by Herman Hille, Ph.D. 16-page booklet. Hille Laboratories.

B-261 Causes and Effects of Pyorrhea. 32-page booklet. Dentinol and Pyorrhocide Co., Inc.

B-268 Supporters, Trusses and Elastic Bandages. 16-page booklet. Hall & Cary Weaving & Belting Co.

B-275 Clinical Data on Campho-Phenique. 4-page folder. Campho-Phenique Co.

B-303 Flit — Destroys Flies, Mosquitoes, Moths, Ants, Bedbugs, Roaches, Other Insects and Their Eggs. 4-page folder. Standard Oil Co.

B-307 Modern Aspects of Syphilis. 16-page booklet. Battle & Co.

B-309 The Journal of Organotherapy. 95-page booklet published monthly. G. W. Carnrick Company.

B-311 The Cure of Cystitis, Pyelitis and other Inflammatory Conditions of the Urinary Tract. Chicago Pharmacal Co.

B-312 The Successful Treatment of Goiter. 15-page booklet. Burnham Soluble Iodine Company.

B-321 Campho-Phenique in Major and Minor Surgery. Circular. Campho-Phenique Company.

B-325 Annals of the Clin Laboratories. Published Quarterly. 64-page booklet. E. Fougera & Co., Inc.

B-328 Internal Bathing. 4-page folder. Huston Bros. Company.

B-330 A Rational Procedure in Summer Diarrhea. 4-page folder. Mellin's Food Company.

B-335 Camouflaging Distasteful Drugs. 24-page booklet. Reed & Carnrick.

B-380 Nativelle's crystallized Digitaline. 8-page booklet. E. Fougera & Co.

B-394 Rheumatism—Its Modern Conception and Treatment. 14-page booklet. Battle & Co.

B-398 The Use of Dried Milk, by A. E. Naish, M.A., M.B. Contab., M.R.C.P., Lond. 4-page folder. Dry Milk Co.

B-400 Organotherapy in E. N. & T. Work, by Henry R. Harrower, M.D. 14-page booklet. Harrower Laboratory, Inc.

B-401 Magnesium Superoxol. 4-page folder. Merck & Co.

B-403 Medinal. 4-page folder. Schering & Glatz, Inc.

B-668 Electrocoagulation in Occlusion of the Rectum, by Dr. H. Bordier. H. G. Fischer & Co.

B-669 Treatment of Enlarged Tonsils by the Indirect Method, by H. B. Thomson, M.D. H. G. Fischer & Co.

B-670 Galvanism, by J. U. Giesy, M.D. H. G. Fischer & Co.

B-671 Diatussin. Ernst Bischoff Co., Inc.

B-672 Styptysate. Ernst Bischoff Co., Inc.

B-673 Bismosalvan. Gedeon Richter Labs., Inc.

B-674 Medicinal Specialties. 44-page booklet. Gedeon Richter Labs., Inc.

B-675 The Largest Organ in the Body THE LIVER is Usually the Most Neglected and Least Understood. Vass Chemical Co.

B-676 B. B. Culture Laboratory, Inc. History.

B-677 The Ideal Tampon. C. B. Moyer & Co.

B-678 New Semi-Curette and Uterine Evacuator. Huston Bros. Co.

B-679 The Quartz Lamp, February 15, 1926. Hanovia Chem. & Mfg. Co.

B-680 Agar of No Consequence in Emulsions of Liquid Petrolatum. Standard Oil Co.

B-681 The Electron, March, 1926. McIntosh Electrical Corp.

B-682 A Selected List of Special Formulas. 16-page booklet. Maltbie Chemical Co.

B-683 Milk Modification for Adult Feeding. Wm. S. Merrell Co.

B-684 Fischer's Magazine, March, 1926. H. G. Fischer & Co.

B-685 Theocalcin—A Diuretic and Vascular Remedy. E. Bilhuber, Inc.

B-687 How Yeast Vitamines Help the Physician. Carroll Dunham Smith Pharmacal Co.

B-688 Malted Milk As a Diet in Typhoid Fever. Horlick's Malted Milk Co.

B-689 A Few Notes Regarding Psychoanalysis. 32-page booklet. Fellows Med. Mfg. Co.

B-690 Service—Suggestions, March-April, 1926. Victor X-ray Corp.

B-691 Mineral Waters Therapeutically Considered. 24-page booklet. Hiram Ricker & Co.

B-692 Leading S. & G. Products. Schering & Glatz, Inc.

B-693 What Do The Phagocytes Mean to Your Patients? Carroll Dunham Smith Pharmacal Co.

B-694 An Active, Harmless Haemorrhagic. Carroll Dunham Smith Pharmacal Co.

B-695 Loeser's Intravenous Solution of Mercurochrome. New York Intravenous Laboratory.

B-696 The Future of Therapeutics, by W. Willard Armstrong, M.D. C. V. Mosby Co.

B-697 Version, by Irving W. Potter, M.D. C. V. Mosby Co.

B-698 Nasal Infections. Wm. S. Merrell Co.